R2800-1B

MULTIPLE INPUT PRODUCTIVITY INDEXES

Volume 3 No. 2 December 1982

SECOND QUARTER

UPDATE

LABOR PRODUCTIVITY

(output per hour)

	Share (%) of hours		Actual levels (1972 $)			Average annual % of change		
	1948	1981	1948	1978	1981	'48-65	'65-73	'73-81
Private business economy	100	100	3.48	7.54	7.59	3.2	2.4	0.7
Segments:								
Farming	18.3	4.2	1.13	4.55	5.51	5.3	5.0	4.0
Manufacturing	29.0	27.7	3.65	8.15	8.40	3.0	2.8	1.4
Non-farm/non-manufacturing	52.7	68.1	4.20	7.48	7.39	2.4	1.8	0.2
Sectors:								
Goods-producing	54.3	40.3	2.93	7.44	7.58	4.0	2.7	0.9
Services-producing	45.7	59.7	4.12	7.62	7.60	2.3	2.2	0.6

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NOTE TO USERS

As a result of a series of new revisions of the basic government data used in compilation of the Multiple Input Productivity Index, this issue provides new figures on growth rates and the indexes of inputs, output and total factor, labor and capital productivity for the full span 1973-81. The Bureau of Economic Analysis (U.S. Department of Commerce) revised the capital stock series for several segments from 1973 onward and revised inventory series of all sectors for the years 1977-81. Output data were revised in both the annual and the quarterly series 1977-81, inclusive. In addition, the labor input series of the U.S. Bureau of Labor Statistics was revised for the years 1979-81.

These new revisions are additional to those cited in the September 1982 Multiple Input Productivity Index (Volume 3, No. 1), which reflected adjustments to the 1980 Census benchmark revision, plus some other modifications.

Among the major sectors, the impact of these revisions was very modest.

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TOTAL FACTOR PRODUCTIVITY HOLDS PLATEAU FOR SECOND QUARTER

Analysis

Total factor productivity for the U.S. business economy was essentially flat in the second quarter of 1982 following a significant first-quarter drop. This pattern, however, cloaked a significant recession-induced variation in change rates for labor and for capital productivity. As can be noted in Table VII, capital productivity dropped sharply in the final quarter of 1981 and in both the first and second quarters of 1982, as the second dip of the 1980-81 recession forced sharp drops in the utilization of plant capacity. Output per unit of labor input, which is more readily adjustable to variations in output than is capital, showed an entirely different pattern, with slight drops in 1981^{IV} and 1982^{I} succeeded by a very modest rise in the second quarter.

The impact of the recession on capacity utilization, and hence on capital use per unit of output, was sharper for the goods industries than for those generating services. The extreme drops in the most recent three quarters in both output and capacity utilization forced rapid declines in capital productivity -- and hence losses in total factor productivity through 1982^{II} -- despite a first to second quarter rise in labor productivity.

In the manufacturing industry, for which sound measures of plant capacity utilization are available, percentage use dropped in June 1982 to 69.8 percent, a full ten percentage points below the rate of July 1981 -- and the lowest point since the Great Depression of the 1930s.

The services industries, in contrast, experienced actual increases in real output in the three most recent quarters, slight rises in labor productivity and only modest declines in output per unit of capital. A slight second quarter rise in 1982 offset a slight drop in the first quarter.

In the annual series, however, the services industries fared less well in both total factor and labor productivity trends during 1978-81 than did the goods producers. (See Table IV).

Table I
Multiple Input Productivity
By Major Segment of the Economy
(Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81

1. Total Factor Productivity

	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	1.8%	2.6%	1.7%	0.4%	-0.5%
Goods Producing Industries	2.4	3.5	2.3	0.4	-0.1
Service Producing Industries	1.3	1.8	1.3	0.6	-0.6
Farming	3.5	4.1	3.1	1.8	4.6
Manufacturing Industry	2.0	2.6	2.3	0.7	-0.5
Nonfarm Nonmanufacturing Industry	1.2	1.9	1.1	0.2	-0.8
Nonfinancial Corporate Business	1.9	2.6	1.6	0.9	0.0

2. Labor Productivity
(Output per hour worked)

	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	2.4%	3.2%	2.4%	0.8%	0.5%
Goods Producing Industries	2.9	4.0	2.7	0.8	1.3
Service Producing Industries	1.9	2.3	2.1	0.8	0.0
Farming	4.9	5.3	4.8	3.2	5.4
Manufacturing Industry	2.6	3.0	2.8	1.5	1.5
Nonfarm Nonmanufacturing Industry	1.7	2.4	1.8	0.4	-0.2
Nonfinancial Corporate Business	2.3	3.1	2.1	1.1	0.7

3. Capital Productivity
(Output per unit of capital input)

	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	0.2%	0.8%	0.1%	-0.4%	-2.5%
Goods Producing Industries	0.3	1.1	0.8	-1.3	-4.1
Service Producing Industries	0.2	0.5	-0.2	0.3	-1.4
Farming	0.2	-0.3	0.0	0.1	3.8
Manufacturing Industry	-0.1	0.9	0.3	-1.7	-5.6
Nonfarm Nonmanufacturing Industry	0.0	0.4	-0.4	-0.1	-1.9
Nonfinancial Corporate Business	0.4	0.9	-0.1	0.4	-1.9

October 4, 1982

Table II

Outputs, Inputs and Capital-Labor Ratio By Major Segment of the Economy (Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81
1. Output (Real product, in 1972 dollars)					
Business Economy	3.3%	3.6%	3.9%	2.7%	0.5%
Goods Producing Industries	2.9	3.6	3.3	1.6	-0.8
Service Producing Industries	3.6	3.6	4.3	3.5	1.4
Farming	1.3	0.9	0.9	1.6	4.4
Manufacturing Industry	3.3	4.0	4.1	2.0	-1.1
Nonfarm Nonmanufacturing Industry	3.4	3.6	3.9	3.1	0.9
Nonfinancial Corporate Business	4.2	4.6	5.0	3.0	0.3
2. Labor Input (Hours worked)					
Business Economy	0.9%	0.4%	1.4%	1.9%	0.0%
Goods Producing Industries	0.0	-0.4	0.6	0.8	-2.1
Service Producing Industries	1.7	1.2	2.1	2.7	1.4
Farming	-3.4	-4.2	-3.7	-1.5	-1.0
Manufacturing Industry	0.7	1.0	1.2	0.5	-2.5
Nonfarm Nonmanufacturing Industry	1.7	1.2	2.1	2.8	1.1
Nonfinancial Corporate Business	1.8	1.5	2.8	2.0	-0.4

Table II (Cont'd)

Outputs, Inputs and Capital-Labor Ratio
By Major Segment of the Economy
(Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81
3. Capital Input					
Business Economy	3.1%	2.8%	3.8%	3.1%	3.1%
Goods Producing Industries	2.6	2.4	2.5	3.0	3.4
Service Producing Industries	3.4	3.1	4.5	3.2	2.9
Farming	1.1	1.2	0.9	1.5	0.6
Manufacturing Industry	3.5	3.1	3.7	3.8	4.8
Nonfarm Nonmanufacturing Industry	3.4	3.2	4.3	3.3	2.9
Nonfinancial Corporate Business	3.8	3.7	5.1	2.6	2.2
4. Capital - Labor Ratio					
Business Economy	2.2%	2.4%	2.3%	1.3%	3.1%
Goods Producing Industries	2.6	2.8	1.9	2.1	5.6
Service Producing Industries	1.7	1.8	2.3	0.5	1.4
Farming	4.6	5.7	4.8	3.1	1.5
Manufacturing Industry	2.7	2.1	2.5	3.2	7.5
Nonfarm Nonmanufacturing Industry	1.7	2.0	2.2	0.5	1.8
Nonfinancial Corporate Business	1.9	2.2	2.2	0.6	2.7

Table III a.

Total Factor Productivity
By Major Industries of the Economy
(Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	1.8%	2.6%	1.7%	0.4%	-0.5%
Goods Producing Industries	2.4	3.5	2.3	0.4	-0.1
Service Producing Industries	1.3	1.8	1.3	0.6	-0.6
Farming	3.5	4.1	3.1	1.8	4.6
Manufacturing	2.0	2.6	2.3	0.7	-0.5
Food	2.8	2.9	4.1	0.1	4.2
Tobacco	1.7	2.3	2.1	0.3	-0.3
Textiles	3.4	3.9	3.0	3.7	-0.4
Apparel	2.3	2.0	3.0	3.1	-0.6
Lumber	2.9	4.5	1.3	0.2	4.5
Furniture	2.0	2.1	0.8	3.3	1.8
Paper	1.9	2.2	4.0	0.0	-3.3
Printing & Publishing	1.3	2.4	1.0	-1.2	0.8
Chemicals	3.1	3.9	4.2	1.2	-2.0
Petroleum	1.0	3.4	2.0	-3.3	-9.3
Rubber	1.7	2.3	2.0	-0.5	1.6
Leather	1.1	1.0	1.7	1.1	-1.1
Stone, Clay & Glass	1.3	2.0	0.9	0.1	0.8
Primary Metals	0.1	0.9	0.9	-2.0	-2.8
Fabricated Metals	1.3	1.7	1.3	0.7	-0.8
Machinery, exc. Elec.	1.3	1.4	1.4	0.8	1.5
Electrical Machinery	3.6	4.3	2.8	3.2	1.2
Transportation Equipment	1.9	3.4	2.3	0.2	-6.4
Instruments	2.6	3.6	2.5	0.9	-0.5
Miscellaneous Manufac.	2.5	2.3	3.6	1.9	2.6
Nonfarm Nonmanufacturing	1.2	1.9	1.1	0.2	-0.8
Mining	0.6	2.3	1.7	-4.1	-4.0
Construction	0.3	2.4	-1.0	-3.0	-2.4
Transportation	1.6	2.0	2.4	1.2	-3.5
Railroad	2.5	4.2	1.2	0.4	-0.7
Nonrail	0.9	0.5	2.7	1.2	-4.3
Communications	4.4	5.4	3.2	3.8	3.0
Public Utilities	2.9	5.5	1.5	-1.0	-2.4
Trade	2.0	2.4	2.6	0.7	-0.3
Finance & Insurance	0.3	1.0	0.3	-1.0	-1.5
Real Estate	1.0	2.0	0.1	-0.2	0.6
Services	0.2	0.3	-0.2	0.4	0.2
Nonfinancial Corporate Business	1.9	2.6	1.6	0.9	0.0

Table III b.

Labor Productivity
(Output per Hour)
By Major Industries of the Economy
(Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	2.4	3.2%	2.4%	0.8%	0.5%
Goods Producing Industries	2.9	4.0	2.7	0.8	1.3
Service Producing Industries	1.9	2.3	2.1	0.8	0.0
Farming	4.9	5.3	4.8	3.2	5.4
Manufacturing	2.6	3.0	2.8	1.5	1.5
Food	3.2	3.2	4.6	0.6	5.3
Tobacco	3.6	4.0	4.0	2.6	0.8
Textiles	4.2	5.0	3.3	4.5	1.1
Apparel	2.5	2.0	3.3	3.5	0.0
Lumber	3.4	4.3	1.8	1.4	8.1
Furniture	2.2	2.1	1.1	3.9	2.9
Paper	2.6	2.5	4.5	1.3	-0.7
Printing & Publishing	1.5	2.4	1.5	-0.8	1.6
Chemicals	4.1	4.8	4.8	2.5	0.2
Petroleum	2.9	5.5	3.3	-1.9	-5.8
Rubber	2.0	2.5	2.2	0.0	2.6
Leather	1.4	1.2	2.2	1.6	-0.4
Stone, Clay & Glass	2.0	2.6	1.2	0.9	3.5
Primary Metals	0.9	1.5	1.5	-1.4	-0.3
Fabricated Metals	1.7	2.1	1.5	1.3	0.5
Machinery, exc. Elec.	1.8	1.7	2.0	1.3	3.1
Electrical Machinery	4.0	4.5	3.4	3.8	3.0
Transportation Equipment	2.6	3.6	3.1	1.0	-3.2
Instruments	3.0	3.8	3.1	1.2	0.8
Miscellaneous Manufac.	3.1	2.8	4.0	2.2	4.7
Nonfarm Nonmanufacturing	1.7	2.4	1.8	0.4	-0.2
Mining	1.4	4.3	2.4	-5.3	-5.6
Construction	0.4	2.6	-0.9	-3.0	-2.2
Transportation	1.9	2.3	2.6	1.3	-3.0
Railroad	3.0	4.8	1.7	0.4	0.7
Nonrail	1.2	0.8	3.2	1.6	-3.7
Communications	5.7	6.5	4.8	5.3	4.2
Public Utilities	4.5	6.9	3.8	0.7	-1.8
Trade	2.4	2.8	3.2	1.0	0.2
Finance & Insurance	1.0	1.3	1.2	-0.1	-0.2
Real Estate	0.5	1.2	0.1	-1.0	1.3
Services	0.6	0.9	0.3	0.2	0.0
Nonfinancial Corporate Business	2.3	3.1	2.1	1.1	0.7

Table III c.

Capital Productivity
(Output per Unit Capital)
By Major Industries of the Economy
(Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	0.2%	0.8%	0.1%	-0.4%	-2.5%
Goods Producing Industries	0.3	1.1	0.8	-1.3	-4.1
Service Producing Industries	0.2	0.5	-0.2	0.3	-1.4
Farming	0.2	-0.3	0.0	0.1	3.8
Manufacturing	-0.1	0.9	0.3	-1.7	-5.6
Food	1.4	2.1	2.5	-1.9	0.5
Tobacco	-1.0	-1.4	0.4	-1.3	-1.0
Textiles	-0.6	-1.6	1.5	1.1	-4.7
Apparel	0.2	1.3	-0.9	-0.3	-4.3
Lumber	1.5	5.2	-1.4	-3.3	-3.7
Furniture	0.6	2.0	-1.2	0.4	-2.9
Paper	0.3	1.5	2.5	-3.1	-8.2
Printing & Publishing	0.3	2.6	-1.7	-2.4	-2.3
Chemicals	1.3	2.2	3.1	-1.1	-5.1
Petroleum	-0.5	1.5	0.9	-4.1	-11.1
Rubber	0.4	1.3	1.0	-2.3	-2.1
Leather	-1.7	-0.7	-3.0	-1.9	-5.1
Stone, Clay & Glass	-0.9	-0.1	-0.1	-2.3	-5.7
Primary Metals	-2.5	-1.7	-1.0	-4.2	-9.5
Fabricated Metals	-1.5	-1.2	-0.3	-2.3	-6.5
Machinery, exc. Elec.	-1.0	-0.6	-1.1	-1.3	-3.6
Electrical Machinery	1.3	3.5	-0.7	0.5	-5.3
Transportation Equipment	-0.1	2.8	-1.0	-2.1	-13.6
Instruments	0.9	1.8	0.4	0.2	-3.4
Miscellaneous Manufac.	-0.1	-0.6	2.0	0.3	-5.0
Nonfarm Nonmanufacturing	0.0	0.4	-0.4	-0.1	-1.9
Mining	-1.4	-2.0	0.7	-2.4	-1.4
Construction	-2.2	-1.7	-2.7	-2.3	-4.9
Transportation	0.1	-0.[illegible]	1.3	0.9	-5.8
Railroad	-0.7	-0.3	-1.1	0.2	-5.3
Nonrail	-1.2	-1.4	0.0	-0.5	-6.6
Communications	0.8	0.3	0.8	2.0	1.7
Public Utilities	0.8	2.8	-0.5	-2.1	-2.7
Trade	-1.2	-1.1	-1.4	-0.7	-2.4
Finance & Insurance	-3.1	-1.4	-4.6	-4.9	-6.1
Real Estate	1.3	2.0	0.0	1.9	-0.7
Services	-0.7	-1.2	-1.1	0.8	0.7
Nonfinancial Corporate Business	0.4	0.9	-0.1	0.4	-1.9

Table III d.

Capital - Labor Ratio
By Major Industries of the Economy
(Selected Periods, 1948 - 81)

	Average Annual Rates of Change				
	1948-81	1948-65	1965-73	1973-79	1979-81
Business Economy	2.2%	2.4%	2.3%	1.3%	3.1%
Goods Producing Industries	2.6	2.8	1.9	2.1	5.6
Service Producing Industries	1.7	1.8	2.3	0.5	1.4
Farming	4.6	5.7	4.8	3.1	1.5
Manufacturing	2.7	2.1	2.5	3.2	7.5
Food	1.8	1.1	2.0	2.5	4.8
Tobacco	4.5	5.5	3.7	4.0	1.9
Textiles	4.8	6.7	1.8	3.4	6.1
Apparel	2.3	0.6	4.2	3.8	4.5
Lumber	1.9	-0.9	3.2	4.9	12.2
Furniture	1.6	0.1	2.4	3.4	5.9
Paper	2.3	1.0	2.0	4.5	8.2
Printing & Publishing	1.2	-0.2	3.3	1.6	4.1
Chemicals	2.7	2.5	1.7	3.6	5.6
Petroleum	3.4	4.0	2.4	2.3	6.0
Rubber	1.6	1.1	1.2	2.3	4.9
Leather	3.2	1.9	5.3	3.6	5.0
Stone, Clay & Glass	2.9	2.7	1.3	3.3	9.8
Primary Metals	3.4	3.2	2.5	2.9	10.2
Fabricated Metals	3.3	3.4	1.8	3.7	7.5
Machinery, exc. Elec.	2.9	2.4	3.4	2.6	7.0
Electrical Machinery	2.6	0.9	4.2	3.3	8.8
Transportation Equipment	2.7	0.8	4.2	3.2	12.0
Instruments	2.1	2.0	2.7	1.0	4.3
Miscellaneous Manufac.	3.2	3.5	2.0	1.9	10.2
Nonfarm Nonmanufacturing	1.7	2.0	2.2	0.5	1.8
Mining	2.8	6.3	1.7	-3.0	-4.3
Construction	2.7	4.3	1.8	-0.7	2.9
Transportation	1.8	2.4	1.3	0.4	3.0
Railroad	3.7	5.1	2.8	0.2	6.4
Nonrail	2.5	2.2	3.2	2.1	3.1
Communications	4.8	6.2	3.9	3.2	2.4
Public Utilities	3.7	4.0	4.3	2.8	0.9
Trade	3.6	3.9	4.7	1.7	2.7
Finance & Insurance	4.2	2.8	6.1	5.1	6.3
Real Estate	-0.8	-0.7	0.1	-2.9	2.0
Services	1.3	2.1	1.4	-0.6	-0.7
Nonfinancial Corporate Business	1.9	2.2	2.2	0.6	2.7

TABLE IV - 1. Business Economy

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	91.8	96.8	89.1	94.3	97.3	94.7	103.0	92.0
1974	89.9	97.3	92.2	95.6	94.1	92.5	97.6	94.8
1975	88.2	93.3	94.2	93.6	94.2	94.5	93.6	101.0
1976	93.8	96.0	96.8	96.3	97.4	97.6	96.9	100.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.5	104.9	103.4	104.4	101.1	100.6	102.0	98.6
1979	107.8	108.2	107.3	107.9	99.9	99.6	100.5	99.2
1980	106.2	107.4	110.5	108.4	98.0	98.9	96.2	102.8
1981	108.9	108.2	114.0	110.1	98.9	100.7	95.5	105.4

TABLE IV - 2. Goods Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	97.6	102.8	90.2	99.9	97.7	94.9	108.2	87.7
1974	93.0	101.5	93.0	99.6	93.4	91.6	100.0	91.6
1975	87.3	92.7	94.9	93.2	93.6	94.1	92.0	102.3
1976	94.3	95.9	97.1	96.2	98.0	98.3	97.1	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.9	105.2	102.6	104.6	100.4	99.7	102.3	97.5
1979	107.6	107.9	107.4	107.7	99.9	99.7	100.1	99.6
1980	103.1	104.0	110.8	105.5	97.7	99.1	93.0	106.6
1981	105.7	103.4	114.9	106.0	99.7	102.3	92.0	111.1

TABLE IV - 3. Service Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	87.7	92.5	88.6	91.0	96.3	94.7	99.0	95.7
1974	87.8	94.2	91.7	93.2	94.2	93.2	95.7	97.4
1975	88.8	93.7	93.8	93.7	94.7	94.8	94.6	100.2
1976	93.4	96.1	96.6	96.3	97.0	97.2	96.7	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	104.6	103.8	104.3	101.5	101.2	102.0	99.2
1979	108.0	108.5	107.3	108.0	100.0	99.6	100.7	98.9
1980	108.5	109.9	110.3	110.1	98.5	98.7	98.3	100.4
1981	111.1	111.6	113.5	112.4	98.8	99.5	97.8	101.7

TABLE IV - 4. Nonfinancial Corporate Business

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs: Real Output	Output and Inputs: Labor Input	Output and Inputs: Capital Input	Output and Inputs: Total Factor Input	Productivity Ratios: Total Factor Productivity	Productivity Ratios: Output per Unit Labor	Productivity Ratios: Output per Unit Capital	Productivity Ratios: Capital-Labor Ratio
1973	92.0	96.9	90.5	95.2	96.6	94.9	101.6	93.4
1974	89.0	97.1	92.8	95.9	92.8	91.7	95.9	95.5
1975	87.2	92.0	93.0	92.2	94.6	94.8	93.8	101.0
1976	93.7	95.8	96.0	95.8	97.8	97.8	97.6	100.2
1977	100.0	100.0	100.2	100.0	100.0	100.0	99.8	100.2
1978	106.3	105.3	104.2	105.0	101.2	101.0	102.0	99.0
1979	110.1	108.8	105.7	108.0	101.9	101.2	104.2	97.1
1980	108.1	107.2	106.5	107.0	101.0	100.8	101.5	99.4
1981	110.7	107.9	110.4	108.5	102.0	102.7	100.3	102.3

TABLE IV - 5. Farming

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs: Real Output	Output and Inputs: Labor Input	Output and Inputs: Capital Input	Output and Inputs: Total Factor Input	Productivity Ratios: Total Factor Productivity	Productivity Ratios: Output per Unit Labor	Productivity Ratios: Output per Unit Capital	Productivity Ratios: Capital-Labor Ratio
1973	94.2	109.4	94.8	102.0	92.3	86.1	99.3	86.7
1974	94.9	109.3	95.8	102.5	92.6	86.8	99.0	87.7
1975	100.9	105.6	98.2	101.9	99.0	95.5	102.7	93.0
1976	96.3	100.9	98.9	99.9	96.4	95.4	97.4	98.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.6	101.8	98.8	100.0	98.6	96.9	99.8	97.1
1979	103.9	99.7	103.7	101.4	102.4	104.2	100.2	104.0
1980	104.5	97.2	104.1	100.4	104.1	107.5	100.3	107.2
1981	118.3	96.8	105.4	100.8	117.3	122.2	112.2	108.9

TABLE IV - 6. Manufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs: Real Output	Output and Inputs: Labor Input	Output and Inputs: Capital Input	Output and Inputs: Total Factor Input	Productivity Ratios: Total Factor Productivity	Productivity Ratios: Output per Unit Labor	Productivity Ratios: Output per Unit Capital	Productivity Ratios: Capital-Labor Ratio
1973	95.9	103.2	87.7	99.3	96.6	93.0	109.4	85.0
1974	91.9	101.2	92.1	98.9	92.9	90.8	99.8	90.9
1975	85.4	91.4	93.6	92.0	92.8	93.4	91.3	102.3
1976	93.6	96.0	96.5	96.1	97.4	97.5	96.9	100.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.3	104.4	104.2	104.4	100.9	100.9	101.1	99.8
1979	108.2	106.5	109.4	107.3	100.9	101.5	98.9	102.7
1980	103.6	101.8	114.5	105.0	98.6	101.7	90.4	112.5
1981	105.9	101.3	120.1	106.0	99.9	104.5	88.1	118.6

TABLE IV - 7. Nonfarm Nonmanufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	89.7	93.1	88.6	91.5	98.0	96.3	101.2	95.2
1974	88.8	94.6	91.6	93.5	95.0	93.9	96.9	96.9
1975	89.0	93.2	93.7	93.4	95.3	95.5	94.9	100.6
1976	93.8	95.7	96.5	96.0	97.7	98.0	97.2	100.8
1977	100.1	100.0	100.0	100.0	100.1	100.1	100.1	100.0
1978	105.9	105.3	103.8	104.8	101.1	100.6	102.0	98.6
1979	107.9	109.6	107.4	108.8	99.1	98.4	100.5	97.9
1980	107.7	110.7	110.4	110.6	97.3	97.3	97.5	99.8
1981	110.0	112.1	113.8	112.7	97.6	98.1	96.6	101.5

TABLE V - 1. Mining

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	98.3	77.4	87.0	81.4	120.8	127.1	113.0	112.4
1974	98.6	83.2	88.3	85.3	115.5	118.5	111.6	106.1
1975	96.7	88.8	91.1	89.8	107.6	108.8	106.0	102.6
1976	97.9	94.5	94.9	94.7	103.4	103.6	103.1	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.0	104.7	105.0	104.8	98.2	98.4	98.1	100.3
1979	106.8	116.6	109.3	113.6	94.0	91.6	97.7	93.8
1980	110.6	126.1	114.2	121.1	91.3	87.7	96.8	90.6
1981	114.4	140.0	120.4	131.9	86.7	81.7	95.0	86.0

TABLE V - 2. Contract Construction

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	109.4	101.6	95.6	101.1	108.2	107.7	114.5	94.1
1974	97.0	101.0	96.5	100.6	96.4	96.0	100.5	95.5
1975	87.9	89.8	96.6	90.3	97.3	97.9	91.0	107.6
1976	96.0	92.4	96.3	92.8	103.5	103.9	99.7	104.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.9	111.6	104.9	111.1	96.2	95.8	101.9	94.0
1979	106.0	118.2	106.4	117.4	90.3	89.7	99.6	90.0
1980	96.9	114.7	105.5	114.0	85.0	84.5	91.9	92.0
1981	94.6	110.3	105.1	110.0	86.0	85.8	90.0	95.3

TABLE V - 3. Total Transportation

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	94.4	100.9	93.4	99.3	95.1	93.6	101.1	92.6
1974	96.7	99.8	95.5	98.9	97.8	96.9	101.3	95.6
1975	90.2	94.2	97.2	94.8	95.1	95.8	92.8	103.2
1976	94.7	96.3	98.7	96.8	97.8	98.3	95.9	102.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.4	105.1	101.5	104.3	103.0	102.2	105.9	96.6
1979	110.0	108.5	103.0	107.4	102.4	101.4	106.7	95.0
1980	102.2	104.7	103.8	104.6	97.7	97.5	98.4	99.1
1981	98.6	103.3	104.1	103.5	95.3	95.5	94.7	100.8

TABLE V - 3a. Railroad Transportation

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	105.0	107.4	102.1	106.2	98.9	97.3	102.9	95.0
1974	107.8	108.3	101.6	106.8	101.0	99.6	106.1	93.9
1975	94.7	100.1	101.2	100.4	94.4	94.6	93.6	101.0
1976	99.3	99.2	100.5	99.5	99.8	100.1	98.8	101.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.8	99.4	99.6	99.5	104.3	104.4	104.2	100.2
1979	103.4	103.0	99.2	102.2	101.2	100.4	104.2	96.3
1980	97.1	96.5	98.7	97.0	100.1	100.6	98.4	102.2
1981	91.5	89.9	98.0	91.8	99.8	101.8	93.4	109.0

TABLE V - 3b. Nonrail Transportation

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	91.8	99.3	85.0	96.5	95.2	92.4	107.9	85.6
1974	93.9	97.8	89.6	96.2	97.6	96.0	104.8	91.6
1975	89.1	92.8	93.5	92.9	95.9	96.0	95.3	100.7
1976	93.5	95.7	96.9	95.9	97.5	97.7	96.5	101.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	106.2	103.2	105.6	102.6	102.0	104.9	97.2
1979	111.6	109.8	106.7	109.1	102.3	101.7	104.6	97.2
1980	103.4	106.7	108.7	107.1	96.6	96.9	95.1	101.9
1981	100.4	106.4	109.9	107.1	93.7	94.3	91.3	103.3

TABLE V - 4. Communications

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	76.9	99.0	82.8	91.2	84.3	77.7	92.9	83.6
1974	79.9	100.4	88.1	94.5	84.6	79.6	90.7	87.8
1975	87.0	97.4	91.8	94.7	91.9	89.3	94.8	94.2
1976	93.4	96.8	95.2	96.0	97.3	96.5	98.1	98.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.8	105.3	106.0	105.6	104.0	104.3	103.6	100.6
1979	117.7	111.2	112.4	111.7	105.4	105.9	104.8	101.1
1980	128.2	115.5	118.6	117.0	109.6	111.0	108.1	102.7
1981	135.3	117.6	124.8	121.0	111.8	115.0	108.4	106.1

TABLE V - 5. Public Utilities

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	93.6	99.3	83.9	89.8	104.2	94.2	111.5	84.5
1974	90.1	100.1	88.8	93.1	96.8	90.0	101.5	88.7
1975	96.2	97.7	92.2	94.3	102.0	98.5	104.4	94.3
1976	96.7	98.0	95.7	96.6	100.1	98.6	101.0	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.7	105.5	104.6	104.9	98.9	98.4	99.2	99.1
1979	107.5	109.4	109.2	109.3	98.4	98.3	98.4	99.8
1980	108.7	112.3	113.3	112.9	96.2	96.8	95.9	100.9
1981	109.3	115.4	117.2	116.5	93.8	94.7	93.2	101.6

TABLE V - 6. Trade

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	91.4	94.5	87.6	93.4	97.9	96.7	104.3	92.7
1974	89.6	94.4	91.0	93.8	95.5	94.9	98.5	96.4
1975	90.8	94.3	91.0	93.8	96.8	96.2	99.7	96.5
1976	95.3	96.8	94.9	96.5	98.7	98.4	100.4	98.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.9	103.6	105.4	103.9	101.9	102.2	100.4	101.8
1979	108.5	105.7	108.6	106.2	102.2	102.6	99.9	102.7
1980	105.3	104.9	110.1	105.7	99.6	100.4	95.6	105.0
1981	108.4	105.3	114.0	106.7	101.6	102.9	95.1	108.2

TABLE V - 7. Finance and Insurance

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	√ Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	89.1	90.6	71.9	86.9	102.5	98.4	123.9	79.4
1974	93.0	93.0	78.7	90.2	103.1	99.9	118.2	84.6
1975	95.0	94.6	84.5	92.6	102.6	100.4	112.4	89.3
1976	96.1	96.4	91.6	95.4	100.7	99.7	104.9	95.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.1	107.0	109.2	107.4	97.8	98.2	96.3	102.0
1979	109.4	111.8	119.2	113.2	96.6	97.9	91.8	106.6
1980	112.8	114.3	130.6	117.5	96.0	98.7	86.4	114.3
1981	116.2	119.1	143.4	123.9	93.8	97.6	81.0	120.5

TABLE V - 8. Real Estate

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	86.4	91.4	94.6	92.4	93.5	94.5	91.4	103.5
1974	88.5	92.5	96.1	93.7	94.5	95.7	92.1	103.9
1975	87.3	91.4	97.1	93.3	93.6	95.5	89.9	106.3
1976	91.8	93.7	98.3	95.2	96.4	98.0	93.4	105.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	110.9	101.9	109.1	94.1	92.6	100.8	91.9
1979	106.4	119.7	103.8	115.6	92.1	89.0	102.5	86.8
1980	109.5	121.5	105.3	117.3	93.4	90.2	104.1	86.7
1981	107.5	117.9	106.5	115.3	93.3	91.2	101.0	90.3

TABLE V - 9. Services

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	81.4	87.3	87.8	87.5	93.1	93.2	92.7	100.6
1974	81.5	91.9	91.0	91.7	88.9	88.6	89.5	99.0
1975	82.6	92.0	93.7	92.5	89.3	89.8	88.1	102.0
1976	89.1	95.0	96.7	95.5	93.3	93.9	92.2	101.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.1	104.6	103.7	104.4	101.7	101.5	102.3	99.2
1979	104.3	110.3	107.4	109.5	95.3	94.6	97.2	97.3
1980	107.9	115.5	110.9	114.2	94.5	93.4	97.2	96.0
1981	112.7	119.3	114.3	117.8	95.7	94.5	98.6	95.8

TABLE VI - 1. Food

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	101.2	101.5	90.5	99.0	102.2	99.8	111.8	89.2
1974	95.0	101.1	92.3	99.1	95.8	94.0	102.9	91.3
1975	95.6	98.1	95.1	97.4	98.1	97.4	100.5	96.9
1976	99.6	100.2	98.2	99.8	99.8	99.4	101.4	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.9	100.1	102.1	100.6	99.3	99.8	97.9	101.9
1979	105.0	101.3	105.1	102.3	102.6	103.6	99.9	103.7
1980	110.6	99.4	108.0	101.4	109.0	111.2	102.5	108.6
1981	112.2	97.7	111.1	100.8	111.4	114.9	101.0	113.8

TABLE VI - 2. Tobacco

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	99.5	112.0	91.6	99.6	99.9	88.8	108.7	81.7
1974	99.4	110.7	95.9	101.7	97.7	89.8	103.6	86.6
1975	102.2	108.4	95.2	100.4	101.8	94.3	107.3	87.9
1976	104.1	107.5	97.2	101.2	102.8	96.8	107.0	90.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.2	100.6	102.7	101.9	99.3	100.6	98.6	102.1
1979	103.1	99.6	102.9	101.6	101.5	103.6	100.2	103.3
1980	104.8	98.3	104.6	102.2	102.5	106.6	100.2	106.4
1981	106.6	101.2	108.6	105.7	100.8	105.3	98.2	107.2

TABLE VI - 3. Textiles

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	91.4	112.3	95.9	108.5	84.3	81.4	95.3	85.4
1974	80.3	103.8	98.4	102.5	78.4	77.4	81.6	94.9
1975	76.5	93.2	97.8	94.2	81.2	82.1	78.2	105.0
1976	87.9	100.2	98.7	99.9	88.0	87.7	89.0	98.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.2	99.3	101.0	99.8	101.4	101.9	100.2	101.7
1979	102.9	97.2	101.3	98.2	104.8	105.9	101.6	104.2
1980	96.5	92.6	102.4	94.9	101.6	104.1	94.2	110.6
1981	96.0	88.6	104.1	92.2	104.0	108.2	92.2	117.4

TABLE VI - 4. Apparel

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	93.9	109.9	91.3	107.7	87.2	85.4	102.8	83.0
1974	93.5	102.5	95.2	101.6	92.0	91.2	98.2	92.9
1975	91.2	93.7	94.8	93.8	97.2	97.4	96.2	101.2
1976	96.5	100.6	97.4	100.2	96.3	95.9	99.0	96.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.9	101.2	102.1	101.3	104.5	104.6	103.7	100.9
1979	103.4	98.5	102.3	99.0	104.4	105.0	101.1	103.9
1980	100.6	95.7	103.8	96.7	104.0	105.1	96.9	108.5
1981	99.5	94.8	107.4	96.3	103.3	105.0	92.6	113.4

TABLE VI - 5. Lumber

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	93.2	105.0	82.9	99.3	93.8	88.7	112.4	78.9
1974	90.9	96.6	90.1	94.9	95.7	94.0	100.8	93.3
1975	86.0	81.9	91.9	84.5	101.7	105.0	93.6	112.2
1976	94.9	94.1	95.5	94.4	100.5	100.9	99.4	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	104.4	105.8	104.9	96.6	97.0	95.8	101.3
1979	102.8	106.5	112.1	108.1	95.1	96.5	91.7	105.2
1980	99.1	95.5	116.4	101.0	98.1	103.7	85.1	121.8
1981	103.1	91.4	121.2	99.2	103.9	112.7	85.1	132.6

TABLE VI - 6. Furniture

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	94.5	109.5	93.0	106.7	88.6	86.3	101.7	84.9
1974	91.3	103.8	98.0	102.8	88.8	88.0	93.1	94.5
1975	80.2	86.3	95.4	87.8	91.3	92.9	84.1	110.5
1976	92.2	92.8	97.5	93.6	98.5	99.4	94.6	105.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.2	105.8	104.4	105.6	103.4	103.2	104.6	98.7
1979	112.6	103.7	107.9	104.5	107.7	108.5	104.3	104.0
1980	108.5	96.5	110.5	98.9	109.7	112.4	98.1	114.6
1981	112.8	98.3	114.6	101.1	111.6	114.8	98.4	116.6

TABLE VI - 7. Paper

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	98.2	101.9	84.9	96.9	101.4	96.3	115.6	83.3
1974	99.3	100.5	89.6	97.3	102.1	98.8	110.8	89.1
1975	82.9	90.3	92.2	90.9	91.3	91.8	90.0	102.1
1976	94.6	96.7	96.0	96.5	98.0	97.8	98.5	99.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.2	101.0	104.2	102.0	100.3	101.2	98.1	103.2
1979	105.2	101.3	110.1	104.0	101.2	103.8	95.6	108.6
1980	99.2	98.5	117.5	104.2	95.2	100.7	84.4	119.3
1981	100.5	98.1	124.9	106.2	94.7	102.4	80.5	127.3

TABLE VI - 8. Printing & Publishing

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	100.1	97.2	89.9	95.7	104.6	103.0	111.4	92.4
1974	95.2	97.0	93.0	96.2	98.9	98.1	102.3	95.9
1975	94.8	94.3	94.3	94.3	100.5	100.5	100.5	100.1
1976	95.9	95.7	96.6	95.9	100.0	100.2	99.2	101.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.9	104.5	104.9	104.6	99.3	99.4	99.0	100.4
1979	106.4	108.7	110.5	109.1	97.5	97.8	96.3	101.6
1980	108.0	110.3	116.2	111.5	96.8	97.9	93.0	105.4
1981	112.7	111.5	122.7	113.9	99.0	101.1	91.9	110.0

TABLE VI - 9. Chemicals

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	87.6	97.1	81.2	90.8	96.5	90.3	107.9	83.7
1974	85.4	98.5	86.0	93.6	91.3	86.7	99.3	87.3
1975	85.0	93.3	89.5	91.8	92.6	91.1	95.0	95.9
1976	95.1	96.9	94.3	95.9	99.2	98.2	100.9	97.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.3	102.5	104.1	103.1	100.1	100.7	99.1	101.6
1979	109.0	104.0	107.7	105.4	103.4	104.8	101.2	103.6
1980	105.5	103.1	113.0	107.0	98.6	102.3	93.4	109.6
1981	108.4	102.9	118.9	109.2	99.2	105.3	91.1	115.6

TABLE VI - 10. Petroleum

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	101.3	95.1	83.7	87.8	115.4	106.6	121.1	88.0
1974	97.1	96.2	87.7	90.8	106.9	100.9	110.7	91.2
1975	86.9	93.1	92.0	92.4	94.0	93.3	94.4	98.8
1976	95.8	96.7	96.6	96.6	99.1	99.0	99.2	99.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.1	104.8	102.4	103.0	100.1	98.4	100.8	97.7
1979	100.9	106.4	107.3	106.8	94.5	94.8	94.0	100.8
1980	93.7	95.8	114.0	107.2	87.4	97.8	82.2	118.9
1981	90.6	107.7	122.0	116.6	77.7	84.1	74.3	113.2

TABLE VI - 11. Rubber

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	95.4	97.7	86.3	95.3	100.2	97.7	110.6	88.4
1974	88.6	96.7	92.7	95.8	92.5	91.7	95.6	95.9
1975	80.7	83.6	93.2	85.6	94.3	96.6	86.6	111.5
1976	86.2	89.7	95.1	90.9	94.8	96.0	90.6	105.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	105.9	105.5	105.9	99.8	99.7	100.1	99.5
1979	106.4	109.1	110.5	109.4	97.3	97.5	96.2	101.4
1980	98.4	100.2	111.8	102.6	95.9	98.2	88.0	111.6
1981	105.3	102.5	114.3	105.0	100.3	102.7	92.2	111.5

TABLE VI - 12. Leather

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	105.2	112.8	97.2	110.8	95.0	93.3	108.3	86.1
1974	97.9	105.1	99.2	104.3	93.8	93.1	98.7	94.4
1975	94.6	96.8	97.4	96.9	97.6	97.7	97.1	100.6
1976	107.3	103.1	98.7	102.5	104.6	104.0	108.7	95.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.2	102.1	101.9	102.1	99.1	99.1	99.3	99.8
1979	98.2	95.8	101.8	96.6	101.7	102.5	96.5	106.3
1980	92.0	89.3	102.9	91.1	101.0	103.1	89.4	115.2
1981	92.1	90.5	106.1	92.5	99.6	101.8	86.8	117.3

TABLE VI - 13. Stone, Clay, & Glass

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	107.3	108.2	90.8	103.7	103.4	99.1	118.2	83.8
1974	100.6	105.7	94.6	102.8	97.9	95.3	106.4	89.5
1975	91.7	92.4	95.6	93.2	98.3	99.2	95.8	103.5
1976	100.6	95.8	97.6	96.3	104.5	105.0	103.0	101.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.2	105.0	104.2	104.8	104.2	104.0	104.8	99.2
1979	111.4	106.6	108.5	107.1	104.0	104.5	102.7	101.8
1980	103.4	98.4	112.3	102.0	101.4	105.1	92.0	114.2
1981	104.9	93.7	114.9	99.2	105.7	111.9	91.2	122.7

TABLE VI - 14. Primary Metals

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	125.9	109.0	89.5	104.1	121.0	115.5	140.7	82.1
1974	127.4	109.9	92.6	105.6	120.7	115.9	137.5	84.3
1975	96.0	93.7	95.9	94.2	101.9	102.5	100.2	102.4
1976	100.0	96.5	98.3	96.9	103.2	103.7	101.8	101.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.1	104.3	101.7	103.7	105.2	104.6	107.3	97.4
1979	113.3	106.5	104.0	105.9	107.0	106.4	109.0	97.7
1980	97.1	93.9	106.2	97.0	100.1	103.4	91.4	113.1
1981	98.4	93.0	110.2	97.4	101.1	105.9	89.3	118.5

TABLE VI - 15. Fabricated Metals

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	100.0	105.7	86.3	102.5	97.5	94.6	115.9	81.6
1974	90.4	103.0	92.7	101.3	89.2	87.7	97.4	90.0
1975	81.3	90.6	93.6	91.1	89.3	89.8	86.9	103.3
1976	92.0	95.3	96.6	95.5	96.4	96.6	95.3	101.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.4	105.4	105.0	105.3	99.1	99.0	99.4	99.6
1979	110.3	107.9	109.7	108.2	102.0	102.2	100.6	101.6
1980	102.9	100.3	112.9	102.4	100.5	102.6	91.1	112.5
1981	101.9	98.6	115.9	101.5	100.4	103.3	87.9	117.5

TABLE VI - 16. Machinery, except Electrical

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	92.2	99.3	85.1	96.2	95.9	92.9	108.3	85.8
1974	94.2	103.3	93.1	101.0	93.3	91.2	101.2	90.1
1975	85.9	93.8	93.7	93.8	91.5	91.5	91.7	99.9
1976	92.8	94.7	95.7	94.9	97.8	98.0	97.0	101.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	108.4	106.9	108.0	99.9	99.5	100.9	98.7
1979	115.5	115.0	115.3	115.0	100.5	100.5	100.2	100.3
1980	115.9	114.1	122.5	115.9	100.0	101.6	94.6	107.4
1981	121.7	113.8	130.6	117.5	103.5	106.9	93.1	114.8

TABLE VI - 17. Electrical Machinery

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	90.7	105.0	89.5	102.0	88.9	86.4	101.3	85.3
1974	84.0	103.3	94.2	101.5	82.7	81.3	89.2	91.2
1975	77.8	88.9	91.6	89.5	87.0	87.5	85.0	103.0
1976	86.7	93.5	94.9	93.8	92.5	92.8	91.4	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.6	106.6	106.9	106.7	106.5	106.6	106.3	100.3
1979	121.4	112.3	116.5	113.1	107.3	108.1	104.1	103.8
1980	122.3	110.0	126.2	113.0	108.2	111.2	96.9	114.8
1981	126.5	110.3	135.4	115.1	110.0	114.7	93.4	122.8

TABLE VI - 18. Transportation Equipment

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	88.4	102.1	91.5	99.4	88.9	86.6	96.5	89.7
1974	80.3	95.3	94.1	95.0	84.6	84.3	85.4	98.7
1975	76.7	87.3	93.7	88.9	86.2	87.9	81.8	107.4
1976	90.2	94.1	96.0	94.6	95.3	95.8	93.9	102.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	106.1	106.6	106.2	98.1	98.2	97.7	100.5
1979	98.7	107.2	115.9	109.4	90.2	92.0	85.2	108.1
1980	83.0	96.9	124.5	103.9	79.9	85.6	66.6	128.5
1981	83.7	97.1	131.6	105.9	79.1	86.2	63.6	135.5

TABLE VI - 19. Instruments

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	84.2	91.4	85.6	89.7	93.9	92.2	98.4	93.7
1974	89.0	96.0	91.9	94.8	93.9	92.8	96.9	95.8
1975	84.9	87.3	92.4	88.8	95.7	97.3	92.0	105.8
1976	91.4	92.8	96.1	93.8	97.4	98.5	95.1	103.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	106.6	104.7	106.3	101.6	101.2	103.1	98.2
1979	112.0	113.0	112.2	113.0	99.1	99.1	99.8	99.3
1980	114.5	115.1	119.1	116.4	98.3	99.5	96.2	103.5
1981	118.2	117.4	126.9	120.4	98.1	100.6	93.1	108.1

TABLE VI - 20. Miscellaneous Manufactures

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	90.5	102.1	99.1	101.5	89.2	88.7	91.3	97.1
1974	87.3	101.0	101.8	101.2	86.3	86.4	85.7	100.8
1975	89.8	92.6	94.7	93.0	96.5	96.9	94.8	102.3
1976	92.5	96.5	99.2	97.0	95.4	95.9	93.3	102.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	104.7	102.6	104.1	96.8	96.2	98.2	98.0
1979	102.4	101.4	110.2	102.8	99.7	101.0	93.0	108.7
1980	99.8	94.4	116.7	98.3	101.6	105.7	85.6	123.5
1981	104.3	94.1	124.2	99.4	104.9	110.8	83.9	132.0

Table VII
Quarterly Indexes of Productivity
1981 I to 1982 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. **Business Economy**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.7	100.7	98.0	102.8
	II	99.5	100.7	97.2	103.6
	III	99.5	101.0	96.9	104.3
	IV	98.2	100.2	94.5	106.0
1982	I	97.4	100.0	92.7	107.9
	II	97.4	100.3	92.2	108.8
1981		98.9	100.7	95.5	105.4
Percent Change: (Annual Rate)					
1981	I	5.3	5.6	4.8	0.8
	II	-1.1	0.0	-3.2	3.3
	III	0.2	1.1	-1.5	2.6
	IV	-5.1	-2.9	-9.2	7.0
1982	I	-3.3	-1.0	-7.6	7.1
	II	0.1	1.2	-2.0	3.3
1981		0.9	1.8	-0.7	2.5

2. **Goods Producing Industries**

1981	I	99.9	101.6	95.0	106.9
	II	100.4	102.4	94.4	108.5
	III	101.5	104.0	94.3	110.2
	IV	98.3	101.2	89.7	112.8
1982	I	96.0	99.7	85.5	116.6
	II	96.0	100.4	83.8	119.8
1981		99.7	102.3	92.0	111.1
Percent Change: (Annual Rate)					
1981	I	5.1	5.0	5.3	-0.3
	II	2.0	3.4	-2.2	5.8
	III	4.5	6.2	-0.3	6.6
	IV	-12.3	-10.2	-18.2	9.7
1982	I	-8.9	-5.7	-17.4	14.1
	II	0.0	2.9	-7.7	11.5
1981		2.0	3.2	-1.1	4.2

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

3. **Service Producing Industries**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.8	99.9	100.1	99.8
	II	99.1	99.3	99.1	100.3
	III	98.5	98.8	98.5	100.3
	IV	98.6	99.4	97.8	101.6
1982	I	98.8	99.9	97.6	102.3
	II	99.0	99.9	98.1	101.9
1981		98.8	99.5	97.8	101.7
Percent Change: (Annual Rate)					
1981	I	5.4	6.1	4.2	1.8
	II	-3.0	-2.3	-4.0	1.8
	III	-2.2	-2.2	-2.3	0.2
	IV	0.3	2.3	-2.7	5.2
1982	I	1.0	2.1	-0.7	2.9
	II	0.7	0.0	1.7	-1.6
1981		0.3	0.8	-0.5	1.3

4. **Nonfinancial Corporate Business**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	103.0	102.8	103.7	99.1
	II	102.7	102.7	102.8	99.9
	III	102.5	102.8	102.1	100.8
	IV	101.4	102.2	99.3	102.9
1982	I	101.0	102.3	97.7	104.8
	II	101.3	102.9	97.1	105.9
1981		102.0	102.7	100.3	102.3
Percent Change: (Annual Rate)					
1981	I	4.7	4.7	4.7	0.0
	II	-1.2	-0.3	-3.4	3.1
	III	-0.6	0.3	-3.0	3.5
	IV	-4.5	-2.3	-10.4	9.0
1982	I	-1.5	0.5	-6.4	7.3
	II	1.1	2.3	-2.1	4.5
1981		1.0	1.8	-1.2	2.9

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

5. Farming

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981 I	103.1	106.3	100.2	106.1
II	111.6	117.2	106.6	109.9
III	125.7	130.9	120.3	108.8
IV	129.4	135.6	124.0	109.4
1982 I	115.4	121.0	110.5	109.5
II	118.0	126.5	110.7	114.2
1981	117.3	122.2	112.2	108.9
Percent Change: (Annual Rate)				
1981 I	31.5	31.7	31.2	0.4
II	37.1	47.5	28.2	15.0
III	59.0	55.8	61.9	-3.8
IV	14.0	15.2	12.9	2.0
1982 I	-36.8	-36.6	-37.0	0.6
II	9.2	19.4	0.9	18.3
1981	12.7	13.7	11.9	1.6

6. Manufacturing Industry

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981 I	101.5	105.2	92.0	114.3
II	101.2	105.0	91.6	114.7
III	100.8	105.0	90.2	116.4
IV	97.5	102.8	84.9	121.0
1982 I	95.9	102.1	81.2	125.8
II	95.2	102.2	79.3	128.8
1981	99.9	104.5	88.1	118.6
Percent Change: (Annual Rate)				
1981 I	5.0	6.3	1.5	4.8
II	-1.0	-0.7	-1.9	1.2
III	-1.7	-0.1	-5.8	6.1
IV	-12.3	-8.2	-21.6	17.1
1982 I	-6.8	-2.4	-16.4	16.7
II	-2.6	0.2	-8.9	9.9
1981	1.3	2.8	-2.5	5.4

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

7. Nonfarm Nonmanufacturing Industry

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981 I	98.7	98.5	99.3	99.2
II	97.9	98.0	97.9	100.1
III	97.6	98.0	97.3	100.6
IV	97.1	97.8	96.3	101.6
1982 I	97.3	98.3	95.8	102.6
II	97.5	98.6	96.0	102.7
1981	97.6	98.1	96.6	101.5
Percent Change: (Annual Rate)				
1981 I	4.5	4.4	4.6	-0.2
II	-3.1	-1.8	-5.5	3.9
III	-1.1	-0.3	-2.4	2.1
IV	-2.0	-0.7	-4.2	3.7
1982 I	0.8	2.3	-1.9	4.3
II	0.7	0.8	0.6	0.3
1981	0.3	0.8	-0.9	1.7

Note: Percent changes are average annual rates of change from the previous quarter. Output and labor are revised, as published by the Bureau of Labor Statistics, Department of Labor, August 26, 1982 "Productivity and Costs" release; capital input and real output revised to reflect 1977-1981 revisions published by the Bureau of Economic Analysis, U.S. Department of Commerce.

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

1. Business Economy

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	91.5	95.6	86.3	93.5	97.8	95.6	106.0	90.2
1973 II	91.5	96.5	87.2	94.4	96.9	94.8	104.9	90.3
1973 III	91.6	97.2	88.1	95.1	96.3	94.3	104.0	90.7
1973 IV	92.4	97.7	89.0	95.8	96.4	94.5	103.8	91.1
1974 I	90.9	98.0	89.8	96.3	94.4	92.8	101.2	91.7
1974 II	90.7	97.8	90.6	96.4	94.1	92.8	100.1	92.7
1974 III	89.8	97.4	91.4	96.4	93.2	92.2	98.3	93.9
1974 IV	88.3	96.0	92.1	95.6	92.4	92.1	95.9	96.0
1975 I	85.7	93.0	92.5	93.8	91.4	92.1	92.6	99.5
1975 II	87.2	92.1	93.0	93.3	93.4	94.6	93.8	100.9
1975 III	89.5	93.2	93.5	94.2	95.0	96.0	95.7	100.4
1975 IV	90.3	94.4	94.1	95.2	94.9	95.7	96.0	99.6
1976 I	92.9	95.6	94.7	96.2	96.5	97.2	98.2	99.0
1976 II	93.5	95.8	95.3	96.6	96.8	97.6	98.1	99.5
1976 III	94.0	96.0	96.0	97.0	97.0	97.9	98.0	99.9
1976 IV	94.6	96.6	96.7	97.5	97.0	98.0	97.9	100.1
1977 I	97.0	97.6	97.5	98.4	98.6	99.4	99.5	99.9
1977 II	99.5	99.9	98.3	99.8	99.6	99.6	101.2	98.4
1977 III	101.5	100.6	99.2	100.4	101.1	100.9	102.3	98.6
1977 IV	102.0	101.5	100.0	101.1	100.9	100.5	102.0	98.5
1978 I	102.7	102.2	100.8	101.8	100.8	100.5	101.9	98.6
1978 II	105.5	104.8	101.6	103.8	101.7	100.7	103.9	97.0
1978 III	106.2	105.5	102.4	104.6	101.5	100.6	103.6	97.1
1978 IV	107.4	106.6	103.4	105.6	101.7	100.8	103.9	96.9
1979 I	108.0	107.5	104.3	106.6	101.3	100.4	103.5	97.0
1979 II	107.5	107.7	105.4	107.0	100.5	99.8	102.0	97.9
1979 III	108.0	108.7	106.4	108.0	99.9	99.3	101.5	97.8
1979 IV	107.9	108.8	107.3	108.4	99.5	99.1	100.5	98.6
1980 I	107.9	108.7	108.1	108.6	99.4	99.3	99.8	99.5
1980 II	104.7	106.6	108.9	107.5	97.4	98.2	96.1	102.2
1980 III	105.3	106.5	109.7	107.6	97.8	98.9	96.0	103.0
1980 IV	107.0	107.7	110.5	108.7	98.4	99.3	96.9	102.5
1981 I	109.1	108.3	111.3	109.4	99.7	100.7	98.0	102.8
1981 II	109.1	108.3	112.2	109.7	99.5	100.7	97.2	103.6
1981 III	109.6	108.5	113.1	110.1	99.5	101.0	96.9	104.3
1981 IV	107.8	107.5	114.0	109.7	98.2	100.2	94.5	106.0
1982 I	106.3	106.3	114.7	109.1	97.4	100.0	92.7	107.9
1982 II	106.4	106.1	115.4	109.2	97.4	100.3	92.2	108.8

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

2. Goods Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	96.9	101.4	88.2	98.6	98.3	95.5	109.9	86.9
1973 II	97.4	102.7	88.8	99.7	97.7	94.9	109.7	86.5
1973 III	97.6	103.0	89.5	100.1	97.5	94.8	109.1	86.9
1973 IV	97.5	104.0	90.2	101.1	96.5	93.8	108.1	86.8
1974 I	94.1	104.6	91.0	101.7	92.5	90.0	103.4	87.0
1974 II	94.3	102.3	91.7	100.1	94.2	92.2	102.9	89.6
1974 III	93.7	101.2	92.5	99.4	94.3	92.6	101.4	91.3
1974 IV	89.6	98.5	93.2	97.5	91.9	91.0	96.2	94.7
1975 I	83.2	92.9	93.8	93.4	89.1	89.6	88.7	100.9
1975 II	85.0	91.1	94.1	92.0	92.4	93.3	90.3	103.3
1975 III	89.6	92.8	94.6	93.4	95.9	96.6	94.8	101.9
1975 IV	91.0	93.9	95.0	94.4	96.4	96.9	95.8	101.2
1976 I	93.2	95.7	95.5	95.9	97.1	97.3	97.6	99.8
1976 II	93.6	96.0	96.1	96.2	97.3	97.6	97.4	100.1
1976 III	94.0	95.9	96.7	96.3	97.6	98.1	97.3	100.8
1976 IV	95.9	96.2	97.2	96.7	99.2	99.7	98.6	101.1
1977 I	97.0	97.4	97.7	97.8	99.2	99.5	99.2	100.3
1977 II	99.6	100.4	98.5	100.1	99.5	99.2	101.1	98.1
1977 III	101.6	100.5	99.3	100.4	101.2	101.1	102.3	98.8
1977 IV	101.8	101.6	100.0	101.3	100.5	100.2	101.8	98.4
1978 I	101.3	101.8	100.5	101.5	99.8	99.6	100.8	98.8
1978 II	104.7	105.3	101.2	104.4	100.3	99.5	103.4	96.2
1978 III	106.2	106.5	101.9	105.4	100.7	99.7	104.2	95.7
1978 IV	107.2	107.3	102.6	106.3	100.9	99.9	104.5	95.6
1979 I	107.5	107.4	103.8	106.6	100.9	100.1	103.6	96.7
1979 II	107.2	107.5	105.0	106.9	100.2	99.7	102.0	97.7
1979 III	107.3	108.6	106.2	108.1	99.3	98.9	101.0	97.8
1979 IV	107.8	108.1	107.4	108.0	99.8	99.7	100.3	99.4
1980 I	108.2	108.2	108.5	108.3	99.9	100.0	99.7	100.3
1980 II	101.6	102.8	109.3	104.4	97.3	98.7	92.9	106.3
1980 III	99.5	101.7	110.0	103.6	96.0	97.9	90.5	108.2
1980 IV	103.9	103.6	110.8	105.3	98.7	100.3	93.7	107.0
1981 I	106.2	104.6	111.9	106.3	99.9	101.6	95.0	106.9
1981 II	106.6	104.1	112.9	106.1	100.4	102.4	94.4	108.5
1981 III	107.6	103.5	114.0	105.9	101.5	104.0	94.3	110.2
1981 IV	103.1	101.9	114.9	104.9	98.3	101.2	89.7	112.8
1982 I	98.9	99.2	115.6	103.0	96.0	99.7	85.5	116.6
1982 II	97.6	97.1	116.4	101.6	96.0	100.4	83.8	119.8

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

3. Service Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	87.7	91.7	85.3	89.7	97.7	95.6	102.8	93.0
1973 II	87.4	92.4	86.4	90.5	96.6	94.6	101.2	93.5
1973 III	87.5	93.1	87.4	91.4	95.8	94.0	100.2	93.9
1973 IV	88.7	93.2	88.4	91.8	96.5	95.1	100.3	94.8
1974 I	88.9	93.1	89.2	92.1	96.6	95.5	99.6	95.9
1974 II	88.4	94.3	90.1	93.1	94.9	93.8	98.1	95.6
1974 III	87.3	94.4	90.9	93.5	93.4	92.5	96.1	96.2
1974 IV	87.7	94.0	91.6	93.5	93.8	93.3	95.8	97.4
1975 I	87.7	93.2	91.9	93.2	94.1	94.1	95.5	98.6
1975 II	89.0	93.0	92.4	93.2	95.5	95.7	96.4	99.3
1975 III	89.8	93.7	93.0	93.9	95.6	95.8	96.5	99.3
1975 IV	90.3	94.9	93.6	94.9	95.1	95.1	96.5	98.6
1976 I	93.1	95.7	94.2	95.6	97.4	97.3	98.8	98.4
1976 II	93.7	95.9	94.9	96.0	97.6	97.8	98.7	99.0
1976 III	94.4	96.3	95.6	96.6	97.8	98.0	98.7	99.2
1976 IV	94.1	97.0	96.3	97.2	96.7	97.0	97.6	99.4
1977 I	97.0	98.0	97.4	98.2	98.8	99.1	99.7	99.4
1977 II	99.3	99.7	98.2	99.5	99.8	99.7	101.1	98.6
1977 III	101.4	100.8	99.1	100.5	101.0	100.6	102.3	98.3
1977 IV	102.2	101.6	100.0	101.2	101.0	100.6	102.2	98.4
1978 I	103.6	102.7	100.9	102.2	101.4	100.9	102.7	98.2
1978 II	106.1	104.6	101.8	103.7	102.3	101.5	104.2	97.4
1978 III	106.2	105.1	102.7	104.4	101.8	101.1	103.4	97.8
1978 IV	107.6	106.3	103.8	105.5	102.0	101.2	103.7	97.6
1979 I	108.3	107.8	104.6	106.8	101.5	100.5	103.6	97.0
1979 II	107.7	108.0	105.6	107.3	100.4	99.7	102.1	97.7
1979 III	108.4	109.0	106.4	108.2	100.2	99.4	101.9	97.6
1979 IV	108.0	109.5	107.3	108.9	99.2	98.6	100.7	97.9
1980 I	107.8	109.3	108.0	109.0	98.9	98.6	99.8	98.8
1980 II	107.0	109.6	108.8	109.5	97.7	97.6	98.4	99.2
1980 III	109.4	110.2	109.5	110.1	99.3	99.3	99.9	99.4
1980 IV	109.3	111.0	110.3	110.9	98.5	98.5	99.1	99.4
1981 I	111.1	111.2	111.0	111.3	99.8	99.9	100.1	99.8
1981 II	110.8	111.6	111.8	111.9	99.1	99.3	99.1	100.3
1981 III	111.0	112.4	112.7	112.7	98.5	98.8	98.5	100.3
1981 IV	111.1	111.8	113.5	112.7	98.6	99.4	97.8	101.6
1982 I	111.5	111.6	114.2	112.8	98.8	99.9	97.6	102.3
1982 II	112.6	112.7	114.8	113.8	99.0	99.9	98.1	101.9

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

4. Nonfinancial Corporate Business

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	91.3	95.8	87.6	94.4	96.7	95.4	104.3	91.4
1973 II	91.9	96.7	88.3	95.3	96.4	95.0	104.1	91.3
1973 III	92.3	97.1	89.3	95.9	96.2	95.0	103.3	91.9
1973 IV	92.4	97.9	90.3	96.7	95.5	94.4	102.3	92.2
1974 I	91.0	98.0	90.4	96.8	93.9	92.8	100.6	92.2
1974 II	89.7	97.6	91.0	96.7	92.8	91.9	98.6	93.2
1974 III	88.4	97.4	91.4	96.7	91.5	90.7	96.7	93.8
1974 IV	86.9	95.4	92.5	95.4	91.0	91.1	93.9	97.0
1975 I	84.2	92.0	92.5	92.9	90.7	91.6	91.1	100.6
1975 II	85.9	90.8	92.5	92.0	93.3	94.5	92.9	101.8
1975 III	88.7	92.0	92.5	92.9	95.5	96.5	95.9	100.6
1975 IV	90.1	93.2	92.7	93.9	96.0	96.7	97.1	99.5
1976 I	92.8	95.2	93.6	95.6	97.0	97.4	99.1	98.3
1976 II	93.3	95.6	94.6	96.1	97.0	97.6	98.6	99.0
1976 III	94.1	95.9	95.3	96.6	97.4	98.1	98.7	99.4
1976 IV	94.5	96.5	95.8	97.1	97.4	98.0	98.7	99.3
1977 I	96.4	97.8	96.8	98.3	98.1	98.6	99.6	99.0
1977 II	99.5	99.7	98.0	99.6	99.8	99.8	101.5	98.3
1977 III	101.7	100.7	99.3	100.6	101.2	101.0	102.4	98.6
1977 IV	102.4	101.7	100.0	101.4	101.0	100.7	102.4	98.4
1978 I	102.8	102.3	101.1	102.1	100.7	100.5	101.7	98.8
1978 II	106.4	105.1	102.4	104.5	101.9	101.2	104.0	97.4
1978 III	107.1	106.2	103.3	105.5	101.5	100.8	103.7	97.2
1978 IV	109.0	107.5	104.0	106.6	102.3	101.5	104.9	96.8
1979 I	110.2	108.3	104.6	107.4	102.5	101.7	105.3	96.6
1979 II	109.8	108.4	105.3	107.7	102.0	101.3	104.3	97.1
1979 III	110.4	109.3	105.5	108.4	101.9	101.1	104.6	96.6
1979 IV	109.9	109.3	105.4	108.3	101.5	100.6	104.3	96.5
1980 I	109.8	109.0	105.7	108.2	101.5	100.8	103.9	97.0
1980 II	106.5	106.6	106.4	106.6	99.8	99.8	100.1	99.7
1980 III	107.1	105.9	106.3	106.1	101.0	101.1	100.8	100.4
1980 IV	109.0	107.2	106.3	107.1	101.8	101.7	102.6	99.1
1981 I	111.0	107.9	107.0	107.7	103.0	102.8	103.7	99.1
1981 II	111.1	108.1	108.0	108.2	102.7	102.7	102.8	99.9
1981 III	111.5	108.5	109.3	108.8	102.5	102.8	102.1	100.8
1981 IV	109.4	107.0	110.1	107.9	101.4	102.2	99.3	102.9
1982 I	107.9	105.4	110.5	106.9	101.0	102.3	97.7	104.8
1982 II	107.6	104.6	110.8	106.3	101.3	102.9	97.1	105.9

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

5. Farming

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	97.3	108.5	93.1	102.4	95.1	89.8	104.6	85.8
1973 II	92.6	108.1	93.6	102.5	90.3	85.6	98.9	86.6
1973 III	86.9	107.6	94.2	102.5	84.8	80.8	92.3	87.6
1973 IV	99.8	108.7	94.8	103.4	96.5	91.8	105.3	87.2
1974 I	88.7	117.5	95.0	108.0	82.1	75.5	93.3	80.8
1974 II	99.4	108.7	95.3	103.7	95.9	91.4	104.3	87.7
1974 III	95.2	103.9	95.6	101.4	93.9	91.7	99.6	92.1
1974 IV	96.2	106.1	95.8	102.6	93.7	90.6	100.4	90.3
1975 I	95.0	104.2	96.4	101.9	93.2	91.2	98.5	92.6
1975 II	102.9	103.9	97.0	102.1	100.7	99.0	106.0	93.4
1975 III	105.1	107.3	97.6	104.2	100.9	97.9	107.7	90.9
1975 IV	100.5	102.2	98.2	101.9	98.6	98.3	102.3	96.1
1976 I	100.3	99.0	98.5	100.4	99.9	101.3	101.8	99.5
1976 II	93.2	103.0	98.6	102.5	90.9	90.5	94.5	95.7
1976 III	93.4	100.5	98.8	101.3	92.2	92.9	94.5	98.3
1976 IV	98.4	97.1	98.9	99.7	98.7	101.3	99.5	101.8
1977 I	97.3	96.0	99.2	99.0	98.2	101.3	98.0	103.3
1977 II	95.2	103.3	99.5	102.1	93.3	92.2	95.7	96.3
1977 III	105.8	97.1	99.7	98.8	107.1	108.9	106.1	102.7
1977 IV	101.7	99.1	100.0	99.7	102.0	102.6	101.7	100.9
1978 I	103.0	101.2	99.7	100.5	102.5	101.7	103.3	98.5
1978 II	96.5	100.5	99.4	100.0	96.5	96.0	97.0	98.9
1978 III	98.5	101.5	99.1	100.3	98.2	97.1	99.4	97.7
1978 IV	96.4	100.1	98.8	99.5	96.9	96.3	97.6	98.7
1979 I	99.9	100.3	100.0	100.2	99.7	99.6	99.9	99.7
1979 II	105.3	97.6	101.2	99.5	105.9	107.9	104.1	103.7
1979 III	104.6	97.5	102.5	100.1	104.6	107.3	102.1	105.2
1979 IV	105.6	100.7	103.7	102.2	103.3	104.9	101.9	102.9
1980 I	108.7	97.0	103.9	100.5	108.1	112.0	104.6	107.2
1980 II	107.7	95.1	104.0	99.6	108.2	113.3	103.6	109.5
1980 III	104.0	96.4	104.1	100.3	103.7	107.9	100.0	108.0
1980 IV	97.5	98.3	104.1	101.3	96.3	99.2	93.6	106.0
1981 I	104.5	98.3	104.3	101.4	103.1	106.3	100.2	106.1
1981 II	111.6	95.2	104.6	100.0	111.6	117.2	106.6	109.9
1981 III	126.3	96.5	105.0	100.8	125.3	130.9	120.3	108.8
1981 IV	130.7	96.4	105.4	101.0	129.4	135.6	124.0	109.4
1982 I	116.6	96.4	105.6	101.1	115.4	121.0	110.5	109.5
1982 II	117.1	92.6	105.7	99.2	118.0	126.5	110.7	114.2

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

6. Manufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	94.3	102.1	85.3	98.6	95.6	92.3	110.5	83.5
1973 II	96.2	103.1	86.0	99.5	96.7	93.3	111.8	83.4
1973 III	96.8	103.2	86.8	99.7	97.1	93.8	111.6	84.1
1973 IV	96.4	104.1	87.7	100.7	95.7	92.5	109.9	84.2
1974 I	92.9	103.2	88.8	100.3	92.7	90.0	104.7	86.0
1974 II	92.8	102.0	89.8	99.6	93.1	91.0	103.3	88.1
1974 III	93.3	101.8	90.9	99.7	93.6	91.7	102.6	89.3
1974 IV	88.5	98.1	92.0	97.2	91.1	90.3	96.2	93.9
1975 I	80.9	91.5	92.7	92.4	87.5	88.4	87.3	101.3
1975 II	82.7	89.8	92.9	91.2	90.6	92.0	89.0	103.5
1975 III	88.1	91.2	93.2	92.3	95.4	96.6	94.5	102.2
1975 IV	89.9	93.2	93.5	94.0	95.7	96.4	96.1	100.3
1976 I	92.1	95.7	94.1	95.9	96.0	96.3	97.8	98.4
1976 II	93.2	95.7	94.9	96.1	97.0	97.4	98.2	99.2
1976 III	94.2	96.1	95.7	96.7	97.4	97.9	98.4	99.6
1976 IV	94.9	96.5	96.5	97.2	97.6	98.3	98.3	100.0
1977 I	96.9	97.9	97.3	98.3	98.6	99.0	99.7	99.3
1977 II	99.8	99.8	98.1	99.7	100.0	99.9	101.7	98.3
1977 III	101.2	100.8	99.2	100.5	100.7	100.4	102.1	98.4
1977 IV	102.1	101.6	100.0	101.3	100.8	100.5	102.1	98.4
1978 I	102.0	102.1	100.9	101.8	100.2	99.9	101.0	98.9
1978 II	104.7	104.2	102.0	103.7	101.0	100.5	102.7	97.9
1978 III	106.5	105.2	103.1	104.7	101.7	101.2	103.3	98.0
1978 IV	108.1	106.2	104.2	105.7	102.3	101.8	103.7	98.2
1979 I	108.9	107.1	105.5	106.7	102.0	101.7	103.2	98.5
1979 II	108.0	106.3	106.8	106.5	101.5	101.6	101.2	100.5
1979 III	108.0	106.9	108.0	107.2	100.7	101.0	100.0	101.1
1979 IV	107.9	105.9	109.4	106.8	101.0	101.9	98.6	103.3
1980 I	107.8	105.1	110.9	106.6	101.1	102.6	97.2	105.5
1980 II	101.6	101.1	112.3	104.0	97.7	100.4	90.4	111.1
1980 III	99.9	99.6	113.3	103.1	96.9	100.3	88.1	113.8
1980 IV	105.0	101.3	114.5	104.7	100.3	103.6	91.7	113.0
1981 I	106.7	101.5	116.0	105.2	101.5	105.2	92.0	114.3
1981 II	107.5	102.4	117.4	106.2	101.2	105.0	91.6	114.7
1981 III	107.4	102.3	119.0	106.5	100.8	105.0	90.2	116.4
1981 IV	102.0	99.2	120.1	104.5	97.5	102.8	84.9	121.0
1982 I	98.2	96.2	121.0	102.5	95.9	102.1	81.2	125.8
1982 II	96.8	94.8	122.1	101.7	95.2	102.2	79.3	128.8

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

7. Nonfarm Nonmanufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973 I	89.8	91.8	85.5	90.5	99.3	97.8	105.1	93.1
1973 II	89.2	92.8	86.5	91.5	97.5	96.2	103.1	93.3
1973 III	89.3	93.7	87.5	92.5	96.6	95.3	102.1	93.4
1973 IV	90.2	94.1	88.5	93.1	96.9	95.9	101.9	94.1
1974 I	90.1	94.2	89.3	93.5	96.3	95.6	100.8	94.8
1974 II	89.3	95.1	90.1	94.3	94.7	94.0	99.1	94.8
1974 III	87.9	95.0	90.9	94.5	93.0	92.6	96.7	95.7
1974 IV	87.9	94.3	91.6	94.3	93.2	93.2	96.0	97.1
1975 I	87.6	92.9	91.9	93.5	93.6	94.3	95.3	99.0
1975 II	88.6	92.3	92.4	93.3	95.0	96.0	96.0	100.1
1975 III	89.4	93.1	93.0	94.0	95.1	96.1	96.2	99.9
1975 IV	90.1	94.3	93.6	95.1	94.8	95.5	96.3	99.2
1976 I	93.0	95.3	94.2	95.9	96.9	97.5	98.7	98.8
1976 II	93.6	95.3	94.9	96.2	97.3	98.2	98.6	99.6
1976 III	94.0	95.7	95.6	96.7	97.2	98.3	98.3	99.9
1976 IV	94.3	96.5	96.3	97.5	96.8	97.7	97.9	99.8
1977 I	97.1	97.6	97.3	98.4	98.6	99.4	99.8	99.7
1977 II	99.5	99.6	98.2	99.7	99.8	99.9	101.3	98.5
1977 III	101.5	100.7	99.1	100.5	101.0	100.7	102.4	98.4
1977 IV	102.0	101.6	100.0	101.2	100.8	100.4	102.0	98.4
1978 I	103.0	102.3	100.9	102.0	101.0	100.6	102.1	98.6
1978 II	106.4	105.3	101.9	104.2	102.0	101.0	104.4	96.7
1978 III	106.4	106.0	102.8	105.0	101.3	100.4	103.5	97.0
1978 IV	107.6	107.3	103.8	106.2	101.3	100.3	103.6	96.8
1979 I	107.9	108.2	104.7	107.1	100.7	99.7	103.1	96.7
1979 II	107.3	109.0	105.7	108.0	99.4	98.5	101.6	96.9
1979 III	108.1	110.4	106.5	109.1	99.1	98.0	101.5	96.5
1979 IV	108.0	110.7	107.4	109.7	98.5	97.6	100.6	97.0
1980 I	108.0	111.1	108.1	110.2	98.0	97.1	99.9	97.3
1980 II	106.1	109.9	108.8	109.7	96.7	96.5	97.5	99.0
1980 III	108.0	110.3	109.6	110.2	97.9	97.8	98.5	99.3
1980 IV	108.5	111.3	110.4	111.1	97.6	97.4	98.2	99.2
1981 I	110.4	112.1	111.2	111.9	98.7	98.5	99.3	99.2
1981 II	109.7	111.9	112.0	112.1	97.9	98.0	97.9	100.1
1981 III	109.9	112.2	112.9	112.6	97.6	98.0	97.3	100.6
1981 IV	109.6	112.0	113.8	112.8	97.1	97.8	96.3	101.6
1982 I	109.7	111.5	114.4	112.7	97.3	98.3	95.8	102.6
1982 II	110.5	112.1	115.1	113.3	97.5	98.6	96.0	102.7

MULTIPLE INPUT PRODUCTIVITY INDEXES

Volume 3 No. 3 February 1983

THIRD QUARTER UPDATE

LABOR PRODUCTIVITY

(output per hour)

	Share (%) of hours		Actual levels (1972 $)			Average annual % of change		
	1948	**1981**	**1948**	**1978**	**1981**	**'48-65**	**'65-73**	**'73-81**
Private business economy	100	100	3.48	7.54	7.59	3.2	2.4	0.7
Segments:								
Farming	18.3	4.2	1.13	4.55	5.51	5.3	5.0	4.0
Manufacturing	29.0	27.7	3.65	8.15	8.40	3.0	2.8	1.4
Non-farm/non-manufacturing	52.7	68.1	4.20	7.48	7.39	2.4	1.8	0.2
Sectors:								
Goods-producing	54.3	40.3	2.93	7.44	7.58	4.0	2.7	0.9
Services-producing	45.7	59.7	4.12	7.62	7.60	2.3	2.2	0.6

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TOTAL FACTOR STAGES REVERSAL, REGISTERS RISE IN THIRD QUARTER 1982

In the third quarter of 1982, total factor productivity for the private business economy reversed the pattern of the five preceding quarters, with a relatively strong 2.5 percent rise. Output per unit of labor rose an even sharper 4.2 percent. (All figures stated at annual rates.) Unfortunately from the point of view of the national economy and its employees, the productivity rise stemmed from a drop of 2.4 percent in hours-paid-for, which was accompanied by a very modest rise of 1.7 percent in output.

Underlying the averages for the business economy were annual rate increases of 3.6 percent total factor and 6.3 percent labor productivity for the goods industries, and 2.1 percent total factor and 2.9 percent labor productivity for the services-generating industries.

For non-financial corporate business, the rise was 2.7 percent total factor and 4.6 percent labor productivity, reflecting an output rise of 0.6 percent and a drop in hours-paid-for of 3.9 percent.

Manufacturing showed strong 3.7 percent total factor and 7.3 percent labor productivity rises, despite a drop in output of 1.5 percent. This was the result of an 8.5 percent annual rate drop in hours -- marking the fourth successive quarter of declines in employment and hours worked.

Capital productivity in the third quarter fell at annual rates of 4.1 percent for manufacturing and 3.4 percent for all goods industries combined, as utilization of industrial facilities in place declined. In constrast, service-generating industries recorded a slight quarterly rise in capital productivity of 0.9 percent, following a 1.6 percent increase in the second quarter.

Indexes for non-financial corporate industry have been revised for this edition of the Multiple Input Productivity Index to reflect recent Bureau of Labor Statistics revision in labor input for the years 1973-81. According to revised data, this segment registered average annual increases of 0.5 percent total factor and 0.7 percent labor productivity over the eight year span; capital productivity declined 0.2 percent per year.

Table VII
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. Business Economy

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.7	100.7	98.0	102.8
	II	99.5	100.7	97.2	103.6
	III	99.5	101.0	96.9	104.3
	IV	98.2	100.2	94.5	106.0
1982	I	97.4	100.0	92.7	107.9
	II	97.5	100.3	92.3	108.8
	III	98.1	101.4	92.1	110.1
1981		98.9	100.7	95.5	105.4
Percent Change: (Annual Rate)					
1981	I	5.3	5.6	4.8	0.8
	II	-1.1	0.0	-3.2	3.3
	III	0.2	1.1	-1.5	2.6
	IV	-5.1	-2.9	-9.2	7.0
1982	I	-3.3	-1.0	-7.6	7.1
	II	0.3	1.4	-1.8	3.3
	III	2.5	4.2	-0.7	5.0
1981		0.9	1.8	-0.7	2.5

2. Goods Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.9	101.6	95.0	106.9
	II	100.4	102.4	94.4	108.5
	III	101.5	104.0	94.3	110.2
	IV	98.3	101.2	89.7	112.8
1982	I	96.1	99.8	85.6	116.6
	II	96.1	100.4	84.1	119.5
	III	96.9	102.0	83.3	122.4
1981		99.7	102.3	92.0	111.1
Percent Change: (Annual Rate)					
1981	I	5.1	5.0	5.3	-0.3
	II	2.0	3.4	-2.2	5.8
	III	4.5	6.2	-0.3	6.6
	IV	-12.3	-10.2	-18.2	9.7
1982	I	-8.6	-5.5	-17.2	14.1
	II	0.0	2.6	-7.0	10.4
	III	3.6	6.3	-3.4	10.0
1981		2.0	3.2	-1.1	4.2

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

3. Service Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.8	99.9	100.1	99.8
	II	99.1	99.3	99.1	100.3
	III	98.5	98.8	98.5	100.3
	IV	98.6	99.4	97.8	101.6
1982	I	98.8	99.9	97.6	102.3
	II	99.0	100.0	98.0	102.0
	III	99.6	100.7	98.3	102.5
1981		98.8	99.5	97.8	101.7

Percent Change: (Annual Rate)

1981	I	5.4	6.1	4.2	1.8
	II	-3.0	-2.3	-4.0	1.8
	III	-2.2	-2.2	-2.3	0.2
	IV	0.3	2.3	-2.7	5.2
1982	I	1.0	2.1	-0.7	2.9
	II	1.0	0.5	1.6	-1.1
	III	2.1	2.9	0.9	2.0
1981		0.3	0.8	-0.5	1.3

4. Nonfinancial Corporate Business

1981	I	102.6	102.3	103.7	98.6
	II	102.3	102.2	102.8	99.3
	III	102.1	102.2	102.1	100.2
	IV	100.9	101.6	99.3	102.3
1982	I	100.5	101.6	97.7	104.1
	II	100.9	102.3	97.3	105.2
	III	101.6	103.5	96.7	107.0
1981		101.6	102.0	100.3	101.7

Percent Change: (Annual Rate)

1981	I	4.7	4.6	4.7	-0.1
	II	-1.2	-0.4	-3.4	3.1
	III	-0.6	0.2	-3.0	3.4
	IV	-4.5	-2.4	-10.4	8.8
1982	I	-1.5	0.3	-6.4	7.1
	II	1.7	2.7	-1.6	4.4
	III	2.7	4.6	-2.2	7.0
1981		1.0	1.7	-1.2	2.9

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

5. Farming

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	103.1	106.3	100.2	106.1
	II	111.6	117.2	106.6	109.9
	III	125.7	130.9	120.3	108.8
	IV	129.4	135.6	124.0	109.4
1982	I	115.4	121.0	110.5	109.5
	II	117.0	125.4	109.8	114.2
	III	122.0	130.0	115.0	113.0
1981		117.3	122.2	112.2	108.9
Percent Change: (Annual Rate)					
1981	I	31.5	31.7	31.2	0.4
	II	37.1	47.5	28.2	15.0
	III	59.0	55.8	61.9	-3.8
	IV	14.0	15.2	12.9	2.0
1982	I	-36.8	-36.6	-37.0	0.6
	II	5.7	15.4	-2.3	18.1
	III	18.2	15.6	20.4	-4.0
1981		12.7	13.7	11.9	1.6

6. Manufacturing Industry

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	101.5	105.2	92.0	114.3
	II	101.2	105.0	91.6	114.7
	III	100.8	105.0	90.2	116.4
	IV	97.5	102.8	84.9	121.0
1982	I	95.9	102.1	81.2	125.8
	II	95.4	102.3	79.6	128.6
	III	96.3	104.2	78.8	132.2
1981		99.9	104.5	88.1	118.6
Percent Change: (Annual Rate)					
1981	I	5.0	6.3	1.5	4.8
	II	-1.0	-0.7	-1.9	1.2
	III	-1.7	-0.1	-5.8	6.1
	IV	-12.3	-8.2	-21.6	17.1
1982	I	-6.8	-2.4	-16.4	16.7
	II	-1.8	0.8	-7.5	9.1
	III	3.7	7.3	-4.1	11.9
1981		1.3	2.8	-2.5	5.4

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

7. **Nonfarm Nonmanufacturing Industry**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	98.7	98.5	99.3	99.2
	II	97.9	98.0	97.9	100.1
	III	97.6	98.0	97.3	100.6
	IV	97.1	97.8	96.3	101.6
1982	I	97.3	98.3	95.8	102.6
	II	97.5	98.6	96.0	102.7
	III	97.9	99.3	95.9	103.6
1981		97.6	98.1	96.6	101.5
Percent Change: (Annual Rate)					
1981	I	4.5	4.4	4.6	-0.2
	II	-3.1	-1.8	-5.5	3.9
	III	-1.1	-0.3	-2.4	2.1
	IV	-2.0	-0.7	-4.2	3.7
1982	I	0.8	2.3	-1.9	4.3
	II	0.8	1.0	0.5	0.5
	III	1.6	2.9	-0.4	3.3
1981		0.3	0.8	-0.9	1.7

Note: Percent changes are average annual rates of change from the previous quarter. Output and labor are revised, as published by the Bureau of Labor Statistics, Department of Labor, November 29, 1982 "Productivity and Costs" release; 1982 II capital and labor inputs and real output are revised; Nonfinancial Corporate Business labor input has been revised beginning in 1968.

TABLE IV. BUSINESS ECONOMY AND MAJOR SECTORS

4. Nonfinancial Corporate Business

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Outputs and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	92.0	95.4	90.3	94.1	97.8	96.4	101.8	94.6
1974	89.0	95.9	92.5	95.0	93.6	92.8	96.2	96.5
1975	87.2	91.4	92.7	91.7	95.1	95.5	94.1	101.5
1976	93.7	95.3	95.8	95.5	98.1	98.2	97.8	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.3	105.4	104.0	105.0	101.3	100.9	102.3	98.7
1979	110.1	109.3	105.4	108.3	101.7	100.7	104.4	96.4
1980	108.1	107.8	106.3	107.4	100.7	100.3	101.7	98.6
1981	110.7	108.5	110.1	108.9	101.6	102.0	100.5	101.5

MULTIPLE INPUT PRODUCTIVITY INDEXES

Volume 3 No. 3 February 1983

THIRD QUARTER
UPDATE

LABOR PRODUCTIVITY

(output per hour)

	Share (%) of hours		Actual levels (1972 $)			Average annual % of change		
	1948	1981	1948	1978	1981	'48-65	'65-73	'73-81
Private business economy	100	100	3.48	7.54	7.59	3.2	2.4	0.7
Segments:								
Farming	18.3	4.2	1.13	4.55	5.51	5.3	5.0	4.0
Manufacturing	29.0	27.7	3.65	8.15	8.40	3.0	2.8	1.4
Non-farm/non-manufacturing	52.7	68.1	4.20	7.48	7.39	2.4	1.8	0.2
Sectors:								
Goods-producing	54.3	40.3	2.93	7.44	7.58	4.0	2.7	0.9
Services-producing	45.7	59.7	4.12	7.62	7.60	2.3	2.2	0.6

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Underlying the averages for the business economy were annual rate increases of 3.6 percent total factor and 6.3 percent labor productivity for the goods industries, and 2.1 percent total factor and 2.9 percent labor productivity for the services-generating industries.

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Capital productivity in the third quarter fell at annual rates of 4.1 percent for manufacturing and 3.4 percent for all goods industries combined, as utilization of industrial facilities in place declined. In constrast, service-generating industries recorded a slight quarterly rise in capital productivity of 0.9 percent, following a 1.6 percent increase in the second quarter.

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Table VII
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. Business Economy

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.7	100.7	98.0	102.8
	II	99.5	100.7	97.2	103.6
	III	99.5	101.0	96.9	104.3
	IV	98.2	100.2	94.5	106.0
1982	I	97.4	100.0	92.7	107.9
	II	97.5	100.3	92.3	108.8
	III	98.1	101.4	92.1	110.1
1981		98.9	100.7	95.5	105.4
Percent Change: (Annual Rate)					
1981	I	5.3	5.6	4.8	0.8
	II	-1.1	0.0	-3.2	3.3
	III	0.2	1.1	-1.5	2.6
	IV	-5.1	-2.9	-9.2	7.0
1982	I	-3.3	-1.0	-7.6	7.1
	II	0.3	1.4	-1.8	3.3
	III	2.5	4.2	-0.7	5.0
1981		0.9	1.8	-0.7	2.5
2. Goods Producing Industries					
1981	I	99.9	101.6	95.0	106.9
	II	100.4	102.4	94.4	108.5
	III	101.5	104.0	94.3	110.2
	IV	98.3	101.2	89.7	112.8
1982	I	96.1	99.8	85.6	116.6
	II	96.1	100.4	84.1	119.5
	III	96.9	102.0	83.3	122.4
1981		99.7	102.3	92.0	111.1
Percent Change: (Annual Rate)					
1981	I	5.1	5.0	5.3	-0.3
	II	2.0	3.4	-2.2	5.8
	III	4.5	6.2	-0.3	6.6
	IV	-12.3	-10.2	-18.2	9.7
1982	I	-8.6	-5.5	-17.2	14.1
	II	0.0	2.6	-7.0	10.4
	III	3.6	6.3	-3.4	10.0
1981		2.0	3.2	-1.1	4.2

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

3. Service Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	99.8	99.9	100.1	99.8
	II	99.1	99.3	99.1	100.3
	III	98.5	98.8	98.5	100.3
	IV	98.6	99.4	97.8	101.6
1982	I	98.8	99.9	97.6	102.3
	II	99.0	100.0	98.0	102.0
	III	99.6	100.7	98.3	102.5
1981		98.8	99.5	97.8	101.7
Percent Change: (Annual Rate)					
1981	I	5.4	6.1	4.2	1.8
	II	-3.0	-2.3	-4.0	1.8
	III	-2.2	-2.2	-2.3	0.2
	IV	0.3	2.3	-2.7	5.2
1982	I	1.0	2.1	-0.7	2.9
	II	1.0	0.5	1.6	-1.1
	III	2.1	2.9	0.9	2.0
1981		0.3	0.8	-0.5	1.3

4. Nonfinancial Corporate Business

1981	I	102.6	102.3	103.7	98.6
	II	102.3	102.2	102.8	99.3
	III	102.1	102.2	102.1	100.2
	IV	100.9	101.6	99.3	102.3
1982	I	100.5	101.6	97.7	104.1
	II	100.9	102.3	97.3	105.2
	III	101.6	103.5	96.7	107.0
1981		101.6	102.0	100.3	101.7
Percent Change: (Annual Rate)					
1981	I	4.7	4.6	4.7	-0.1
	II	-1.2	-0.4	-3.4	3.1
	III	-0.6	0.2	-3.0	3.4
	IV	-4.5	-2.4	-10.4	8.8
1982	I	-1.5	0.3	-6.4	7.1
	II	1.7	2.7	-1.6	4.4
	III	2.7	4.6	-2.2	7.0
1981		1.0	1.7	-1.2	2.9

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

5. **Farming**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	103.1	106.3	100.2	106.1
	II	111.6	117.2	106.6	109.9
	III	125.7	130.9	120.3	108.8
	IV	129.4	135.6	124.0	109.4
1982	I	115.4	121.0	110.5	109.5
	II	117.0	125.4	109.8	114.2
	III	122.0	130.0	115.0	113.0
1981		117.3	122.2	112.2	108.9
Percent Change: (Annual Rate)					
1981	I	31.5	31.7	31.2	0.4
	II	37.1	47.5	28.2	15.0
	III	59.0	55.8	61.9	-3.8
	IV	14.0	15.2	12.9	2.0
1982	I	-36.8	-36.6	-37.0	0.6
	II	5.7	15.4	-2.3	18.1
	III	18.2	15.6	20.4	-4.0
1981		12.7	13.7	11.9	1.6

6. **Manufacturing Industry**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	101.5	105.2	92.0	114.3
	II	101.2	105.0	91.6	114.7
	III	100.8	105.0	90.2	116.4
	IV	97.5	102.8	84.9	121.0
1982	I	95.9	102.1	81.2	125.8
	II	95.4	102.3	79.6	128.6
	III	96.3	104.2	78.8	132.2
1981		99.9	104.5	88.1	118.6
Percent Change: (Annual Rate)					
1981	I	5.0	6.3	1.5	4.8
	II	-1.0	-0.7	-1.9	1.2
	III	-1.7	-0.1	-5.8	6.1
	IV	-12.3	-8.2	-21.6	17.1
1982	I	-6.8	-2.4	-16.4	16.7
	II	-1.8	0.8	-7.5	9.1
	III	3.7	7.3	-4.1	11.9
1981		1.3	2.8	-2.5	5.4

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 I to 1982 III
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

7. **Nonfarm Nonmanufacturing Industry**

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	I	98.7	98.5	99.3	99.2
	II	97.9	98.0	97.9	100.1
	III	97.6	98.0	97.3	100.6
	IV	97.1	97.8	96.3	101.6
1982	I	97.3	98.3	95.8	102.6
	II	97.5	98.6	96.0	102.7
	III	97.9	99.3	95.9	103.6
1981		97.6	98.1	96.6	101.5
Percent Change:		(Annual Rate)			
1981	I	4.5	4.4	4.6	-0.2
	II	-3.1	-1.8	-5.5	3.9
	III	-1.1	-0.3	-2.4	2.1
	IV	-2.0	-0.7	-4.2	3.7
1982	I	0.8	2.3	-1.9	4.3
	II	0.8	1.0	0.5	0.5
	III	1.6	2.9	-0.4	3.3
1981		0.3	0.8	-0.9	1.7

Note: Percent changes are average annual rates of change from the previous quarter. Output and labor are revised, as published by the Bureau of Labor Statistics, Department of Labor, November 29, 1982 "Productivity and Costs" release; 1982 II capital and labor inputs and real output are revised; Nonfinancial Corporate Business labor input has been revised beginning in 1968.

TABLE IV. BUSINESS ECONOMY AND MAJOR SECTORS

4. Nonfinancial Corporate Business

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Outputs and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1973	92.0	95.4	90.3	94.1	97.8	96.4	101.8	94.6
1974	89.0	95.9	92.5	95.0	93.6	92.8	96.2	96.5
1975	87.2	91.4	92.7	91.7	95.1	95.5	94.1	101.5
1976	93.7	95.3	95.8	95.5	98.1	98.2	97.8	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.3	105.4	104.0	105.0	101.3	100.9	102.3	98.7
1979	110.1	109.3	105.4	108.3	101.7	100.7	104.4	96.4
1980	108.1	107.8	106.3	107.4	100.7	100.3	101.7	98.6
1981	110.7	108.5	110.1	108.9	101.6	102.0	100.5	101.5

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MULTIPLE INPUT PRODUCTIVITY INDEXES

Volume 3 No. 4 April 1983

FOURTH QUARTER UPDATE

LABOR PRODUCTIVITY

(output per hour)

	Share (%) of hours		Actual levels (1972 $)			Average annual % of change		
	1948	**1981**	**1948**	**1978**	**1981**	**'48-65**	**'65-73**	**'73-81**
Private business economy	100	100	3.48	7.54	7.59	3.2	2.4	0.7
Segments:								
Farming	18.3	4.2	1.13	4.55	5.51	5.3	5.0	4.0
Manufacturing	29.0	27.7	3.65	8.15	8.40	3.0	2.8	1.4
Non-farm/non-manufacturing	52.7	68.1	4.20	7.48	7.39	2.4	1.8	0.2
Sectors:								
Goods-producing	54.3	40.3	2.93	7.44	7.58	4.0	2.7	0.9
Services-producing	45.7	59.7	4.12	7.62	7.60	2.3	2.2	0.6

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PRODUCTIVITY IMPROVES......SORT OF

In the fourth quarter of 1982, labor productivity continued its pattern of recent increases in most major segments of the economy. On an annualized basis, the increase was 4.1 percent for the whole business economy. Unfortunately, this "improvement" represents a combination of declining output and more rapidly declining labor hour input, which is certainly not yet indicative of "normal" productivity performance in the early stages of a recovery. This is the fifth consecutive quarter of declining labor input.

The overall labor productivity improvement is partially offset by continued decline in capital productivity. Except for two quarters two years ago, this statistic has been declining for five years. Particularly startling was a 3.7 percent decline (annual rate) in capital productivity in the service-producing industries as a whole. Thus, total factor productivity's increase for the business economy was held to 1.3 percent for the fourth quarter. The goods segment was up 5.1 percent, reflecting seasonal strengths in agriculture and improvement in construction, but manufacturing was down 3.4 percent. The service segment declined at a 0.6 percent rate.

This edition presents preliminary 1982 annual data for the first time. As might be expected, the addition of capital productivity to the more well-known labor productivity gives an extra dimension:

BUSINESS ECONOMY
% Improvement over Previous Year

	1980	1981	1982
Labor Productivity	(0.7)	1.8	0.4
Capital Productivity	(3.7)	(0.7)	(4.4)
Total Factor Productivity	(1.9)	0.9	(1.3)

GOODS
% Improvement Over Previous Year

	1980	1981	1982
Labor Productivity	(0.6)	3.2	(0.5)
Capital Productivity	(7.1)	(1.1)	(9.3)
Total Factor Productivity	(2.2)	1.8	(3.0)

MANUFACTURING
(Subset of Goods)
% Improvement Over Previous Year

	1980	1981	1982
Labor Productivity	0.2	2.8	(1.0)
Capital Productivity	(8.6)	(2.5)	(11.1)
Total Factor Productivity	(2.3)	0.9	(4.4)

	SERVICES % Improvement Over Previous Year		
	1980	1981	1982
Labor Productivity	(0.9)	0.9	0.9
Capital Productivity	(2.4)	(0.5)	(1.0)
Total Factor Productivity	(1.5)	0.3	0.1

The 1982 productivity performance of the Services segment, flat as it is, shines in contrast to Manufacturing, which basically accounts for the overall economy's weaknesses.

Table I
Multiple Input Productivity
By Major Segment of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
1. Total Factor Productivity					
Business Economy	1.7%	2.6%	1.7%	0.4%	-0.8%
Goods Producing Industries	2.2	3.5	2.3	0.4	-1.1
Service Producing Industries	1.3	1.8	1.3	0.6	-0.3
Farming	3.6	4.1	3.1	1.8	6.0
Manufacturing Industry	1.8	2.6	2.3	0.7	-1.9
Nonfarm Nonmanufacturing Industry	1.2	1.9	1.1	0.2	-0.6
Nonfinancial Corporate Business	1.8	2.6	1.5	0.7	-0.1
2. Labor Productivity (Output per hour worked)					
Business Economy	2.3%	3.2%	2.4%	0.8%	0.5%
Goods Producing Industries	2.8	4.0	2.7	0.8	0.7
Service Producing Industries	1.8	2.3	2.1	0.8	0.3
Farming	5.1	5.3	4.8	3.2	8.0
Manufacturing Industry	2.5	3.0	2.8	1.5	0.6
Nonfarm Nonmanufacturing Industry	1.7	2.4	1.8	0.4	0.2
Nonfinancial Corporate Business	2.2	3.1	2.1	0.7	0.8
3. Capital Productivity (Output per unit of capital input)					
Business Economy	0.1%	0.8%	0.1%	-0.4%	-3.1%
Goods Producing Industries	0.0	1.1	0.8	-1.3	-5.9
Service Producing Industries	0.2	0.5	-0.2	0.3	-1.3
Farming	0.3	-0.3	0.0	0.1	5.3
Manufacturing Industry	-0.4	0.9	0.3	-1.7	-7.5
Nonfarm Nonmanufacturing Industry	-0.1	0.4	-0.4	-0.1	-1.9
Nonfinancial Corporate Business	0.3	0.9	-0.1	0.4	-2.4

Table II

Outputs, Inputs and Capital-Labor Ratio
By Major Segment of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
1. Output (Real product, in 1972 dollars)					
Business Economy	3.1%	3.6%	3.9%	2.7%	-0.4%
Goods Producing Industries	2.6	3.6	3.3	1.6	-3.1
Service Producing Industries	3.6	3.6	4.3	3.5	1.4
Farming	1.5	0.9	0.9	1.6	5.9
Manufacturing Industry	3.0	4.0	4.1	2.0	-3.7
Nonfarm Nonmanufacturing Industry	3.3	3.6	3.9	3.1	0.8
Nonfinancial Corporate Business	3.9	4.6	5.0	3.0	-0.7
2. Labor Input (Hours worked)					
Business Economy	0.8%	0.4%	1.4%	1.9%	-0.9%
Goods Producing Industries	-0.2	-0.4	0.6	0.8	-3.8
Service Producing Industries	1.7	1.2	2.1	2.7	1.1
Farming	-3.4	-4.2	-3.7	-1.5	-2.0
Manufacturing Industry	0.5	1.0	1.2	0.5	-4.3
Nonfarm Nonmanufacturing Industry	1.6	1.2	2.1	2.8	0.6
Nonfinancial Corporate Business	1.7	1.5	2.9	2.3	-1.5

Table II (Cont'd)

Outputs, Inputs and Capital-Labor Ratio By Major Segment of the Economy (Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
3. Capital Input					
Business Economy	3.1%	2.8%	3.8%	3.1%	2.8%
Goods Producing Industries	2.6	2.4	2.5	3.0	2.9
Service Producing Industries	3.4	3.1	4.5	3.2	2.7
Farming	1.1	1.2	0.9	1.5	0.6
Manufacturing Industry	3.4	3.1	3.7	3.8	4.0
Nonfarm Nonmanufacturing Industry	3.4	3.2	4.3	3.3	2.8
Nonfinancial Corporate Business	3.7	3.7	5.1	2.6	1.7
4. Capital - Labor Ratio					
Business Economy	2.3%	2.4%	2.3%	1.3%	3.7%
Goods Producing Industries	2.8	2.8	1.9	2.1	7.0
Service Producing Industries	1.7	1.8	2.3	0.5	1.6
Farming	4.7	5.7	4.8	3.1	2.6
Manufacturing Industry	2.9	2.1	2.5	3.2	8.7
Nonfarm Nonmanufacturing Industry	1.8	2.0	2.2	0.5	2.2
Nonfinancial Corporate Business	1.9	2.2	2.2	0.3	3.2

Note: Figures for 1982 are preliminary.

Table VII
Quarterly Indexes of Productivity
1981 III to 1982 IV
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. Business Economy

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	99.5	101.0	96.9	104.3
	IV	98.2	100.2	94.5	106.0
1982	I	97.4	100.0	92.7	107.9
	II	97.5	100.3	92.3	108.7
	III	97.9	101.2	92.0	110.0
	IV	98.3	102.2	91.2	112.2
1981		98.9	100.7	95.5	105.4
1982		97.6	101.0	91.3	110.6
Percent Change: (Annual Rate)					
1981	III	0.2	1.1	-1.5	2.6
	IV	-5.1	-2.9	-9.2	7.0
1982	I	-3.1	-1.0	-7.5	7.0
	II	0.1	1.4	-1.7	3.2
	III	1.9	3.6	-1.3	4.9
	IV	1.3	4.1	-3.6	8.0
1981		0.9	1.8	-0.7	2.5
1982		-1.3	0.4	-4.4	5.0

2. Goods Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	101.5	104.0	94.3	110.2
	IV	98.3	101.2	89.7	112.8
1982	I	96.0	99.7	85.6	116.5
	II	96.0	100.4	84.0	119.4
	III	96.8	101.8	83.2	122.4
	IV	98.0	103.9	82.5	126.0
1981		99.5	102.3	92.0	111.1
1982		96.5	101.8	83.4	122.0
Percent Change: (Annual Rate)					
1981	III	4.5	6.2	-0.3	6.6
	IV	-12.3	-10.2	-18.2	9.7
1982	I	-8.9	-5.7	-17.3	14.0
	II	0.0	2.6	-7.0	10.3
	III	3.2	6.0	-4.1	10.5
	IV	5.1	8.5	-3.4	12.4
1981		1.8	3.2	-1.1	4.3
1982		-3.0	-0.5	-9.3	9.8

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 III to 1982 IV
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

3. Service Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	98.5	98.8	98.5	100.3
	IV	98.6	99.4	97.8	101.6
1982	I	98.8	99.9	97.7	102.3
	II	99.1	100.0	98.1	102.0
	III	99.4	100.6	98.2	102.4
	IV	99.3	100.9	97.3	103.7
1981		98.8	99.5	97.8	101.7
1982		99.0	100.4	96.9	103.7
Percent Change: (Annual Rate)					
1981	III	-2.2	-2.2	-2.3	0.2
	IV	0.3	2.3	-2.7	5.2
1982	I	1.0	2.1	-0.7	2.8
	II	1.0	0.5	1.7	-1.1
	III	1.5	2.2	0.5	1.6
	IV	-0.6	1.5	-3.7	5.5
1981		0.3	0.9	-0.5	1.4
1982		0.1	0.9	-1.0	1.9

4. Nonfinancial Corporate Business

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	102.1	102.2	102.1	100.2
	IV	100.9	101.6	99.3	102.3
1982	I	100.5	101.6	97.8	103.9
	II	100.9	102.3	97.5	104.9
	III	101.7	103.5	97.1	106.6
	IV	102.3	104.7	96.5	108.5
1981		101.6	102.0	100.5	101.5
1982		101.4	103.0	97.1	106.1
Percent Change: (Annual Rate)					
1981	III	-0.6	0.2	-3.0	3.4
	IV	-4.6	-2.4	-10.4	8.8
1982	I	-1.4	0.3	-5.9	6.6
	II	1.7	2.7	-1.1	3.8
	III	2.8	4.6	-1.8	6.5
	IV	2.5	4.5	-2.7	7.4
1981		1.0	1.7	-1.2	2.9
1982		-0.3	1.0	-3.4	4.5

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 III to 1982 IV
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

5. Farming

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	125.3	130.9	120.3	108.8
	IV	129.4	135.6	124.0	109.4
1982	I	115.5	121.0	110.6	109.4
	II	117.1	125.4	110.0	114.0
	III	120.8	128.6	114.1	112.8
	IV	138.8	149.3	129.9	114.9
1981		117.3	122.2	112.2	108.9
1982		122.2	131.4	116.8	112.4
Percent Change: (Annual Rate)					
1981	III	59.0	55.8	61.9	-3.8
	IV	14.0	15.2	12.9	2.0
1982	I	-36.7	-36.6	-36.8	0.2
	II	5.9	15.4	-1.9	17.7
	III	13.3	10.8	15.5	4.1
	IV	74.1	81.4	68.1	7.9
1981		12.7	13.6	11.8	1.6
1982		4.2	7.5	4.1	3.3

6. Manufacturing Industry

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	100.8	105.0	90.2	116.4
	IV	97.5	102.8	84.9	121.0
1982	I	95.9	102.1	81.2	125.8
	II	95.4	102.3	79.6	128.6
	III	96.3	104.1	78.8	132.2
	IV	95.5	104.3	76.4	136.6
1981		99.5	104.5	88.2	118.6
1982		95.1	103.5	78.4	132.0
Percent Change: (Annual Rate)					
1981	III	-1.7	-0.1	-5.8	6.1
	IV	-12.3	-8.2	-21.6	17.1
1982	I	-6.8	-2.4	-16.4	16.7
	II	-1.8	0.8	-7.5	9.1
	III	3.7	7.3	-4.1	11.9
	IV	-3.4	0.5	-11.6	13.8
1981		0.9	2.8	-2.5	5.4
1982		-4.4	-1.0	-11.1	11.3

Table VII (Cont'd)
Quarterly Indexes of Productivity
1981 III to 1982 IVx
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

7. Nonfarm Nonmanufacturing Industry

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1981	III	97.6	98.0	97.3	100.6
	IV	97.1	97.8	96.3	101.6
1982	I	97.3	98.3	95.9	102.6
	II	97.5	98.6	96.0	102.7
	III	97.8	99.1	95.8	103.5
	IV	97.9	99.8	95.0	105.1
1981		97.6	98.1	96.6	101.5
1982		97.4	99.0	94.8	104.4
Percent Change: (Annual Rate)					
1981	III	-1.1	-0.3	-2.4	2.1
	IV	-2.0	-0.7	-4.2	3.7
1982	I	0.8	2.3	-1.8	4.2
	II	0.9	1.0	0.6	0.4
	III	1.0	2.2	-1.0	3.2
	IV	0.6	2.9	-3.1	6.1
1981		0.2	0.9	-0.9	1.8
1982		-0.1	0.9	-1.9	2.9

Note: Percent changes are average annual rates of change from the previous quarter. Output and labor are revised, as published by the Bureau of Labor Statistics, Department of Labor, March 1, 1983, "Productivity and Costs" release. Nonfinancial Corporate Business output and labor hours have been estimated by the APC for 1982 IV.

MULTIPLE INPUT PRODUCTIVITY INDEXES

Volume 4 No. 1 July 1983

1982 Productivity Growth Rates (Annual Percent of Change)

	Total Factor Productivity	Labor Productivity	Capital Productivity	Capital/Labor Ratio
Private business economy	-0.4%	1.2%	-3.6%	5.0%
Segments:				
Farming	5.9	7.7	4.3	3.3
Manufacturing	-0.9	2.3	-8.1	11.3
Non-farm/non manufacturing	-0.3	0.8	-2.0	2.9
Sectors:				
Goods-producing	-0.4	1.9	-6.7	4.3
Services-producing	0.0	0.9	-1.3	2.2

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A NOTE TO USERS OF MULTIPLE-INPUT PRODUCTIVITY INDEXES

This brochure constitutes the initial issue of the American Productivity Center's 1983-84 Multiple-Input Productivity Index. The next three quarterly issues will update data for only selected portions of the economy -- the private business economy and the major segments. Thus, this issue should be retained as a basic reference for the entire 1983-84 subscription year.

Another feature of the 1983 series is the presentation of updated indexes of trend for certain three- or four-digit SIC industries -- a service made possible through financial support of individual corporations and industry organizations. Manufacturing industries in the series include: steel, plastic products and four food product groups.

For the latter two industry categories (plastics and food products) total [1] as well as total factor productivity data are shown.

---

[1] The total factor series matches value-added output against the weighted input of labor and capital; "intermediate items" -- purchased materials, energy, components and services -- are excluded from both numerator and denominator. For the "total" productivity series, these purchased inputs are included both the output and input side, and separate materials and energy productivity ratios may be computed.

Multiple-Input Productivity Indexes Contractor: Dr. Elliott H. Grossman

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ANALYSIS
1982 ANNUAL DATA

The year 1982 has illustrated better than any other year in the recent past the need for having productivity data which looks at the economy on an industry-by-industry basis to supplement the aggregate data for the whole economy.

The official recession, which apparently ended in late 1982, brought to many industries sharp declines in output and generated, in turn, sharp reductions in the labor force. For the goods-producing industries, 1982 output was down 5.1 percent and labor input was down 6.8 percent. This calculates as a 1.9 percent increase in labor productivity, not a particularly cheerful rate of productivity improvement given the unemployment that resulted, but an improvement nonetheless. Service-producing industries had a smaller 0.9 percent increase in labor productivity, but in this case it came from a 1.1 percent increase in output and a 0.3 percent increase in labor input.

Within the goods-producing sector, most industries were able to reduce labor force as output declined, but a few others, often because the labor force was already lean, were not able to adjust further. Both 1981 and 1982 performances in output and labor hours are presented on Table IIIe, but here are some of the clearest examples of how industries coped:

	1982 Output Growth	1982 Labor Input Growth
No Recession		
Leather	4.6	-11.8
Farming	4.5	- 3.0
Food	4.4	- 2.9
Instruments	2.0	- 4.3
Successful Adjustment		
Chemicals	- 1.4	- 4.5
Lumber	- 3.6	- 9.9
Textiles	- 4.4	-13.6
Transport Equipment	- 4.7	- 9.2
Unable to Adjust		
Printing and Publishing	- 3.9	0.0
Mining	-10.0	- 2.7
Petroleum	-12.6	- 2.0
Primary Metals	-27.2	-21.8

Obviously, some adjustments were also made (or not made) in late 1981 and early 1983, but this illustrates the substantial differences that are part of a complex economy.

The service industries, overall in a much better situation, also showed differences:

	1982 Output Growth	1982 Labor Input Growth
No Recession		
Business Services	9.7	2.8
Finance/Insurance	1.8	3.0
Communication	0.4	-0.6
Successful Adjustment		
Non-Rail Transport	-5.0	-8.8
Rail Transport	-8.8	-14.6
Unable to Adjust		
Trade (retail and wholesale)	-1.7	-0.8
Real Estate	-1.8	2.4
Public Utilities	-3.9	1.4

Capital input kept gaining in essentially all sectors and industries in spite of the decline in output. Whether, these gains are the result of productivity-improving capital investment (the benefits of which the economy can harvest in 1983 and beyond) or simply previously-committed but unnecessary capacity expansion is known only to experts within each industry. Nevertheless, capital productivity is down nearly everywhere (except farming, business services, food and leather), so total factor productivity results are generally worse than labor productivity results alone.

The most notable performances in 1982 total factor productivity were:

Best		Worst	
Leather	16.4	Petroleum	-15.0
Business Services	6.8	Primary Metals	-13.7
Textiles	6.6	Mining	- 9.7
Food	6.2	Public Utilities	- 6.3
Farming	5.9	Printing and Publishing	- 5.0

Special mention is appropriate for the Communications industry, which had its first yearly decline in total factor productivity (-1.2%) since World War II. Output flattened and labor input declined slightly, but the capital engine kept going. However, for the whole period 1948-1982, Communications' average total factor improvement of 4.3% is still well ahead of all other industries.

NOTE: The textile industry 1982 output index number used in these calculations is being analyzed for possible revision by the BEA. Thus, 1982 textile industry productivity results should be viewed as preliminary only.

ANALYSIS
FIRST QUARTER 1983

Labor productivity in the business economy increased at a 2.2 percent annualized rate during the first quarter of 1983. Though the third and fourth quarters of 1982 had higher annualized rates of improvement (3.7 percent and 2.6 percent, respectively), this is the first quarter since third quarter 1981 in which the labor input actually increased. Output growth is now healthy enough to permit some rehiring while still maintaining a reasonable productivity improvement pace. Both goods and services contributed to this quarter's improvement.

But these results are somewhat disappointing when compared to the last three recession "bottoms":

Performance, First Quarter of "Recovery"
(Turning Point = 100.00, Not Annualized)

Recession Turning Point	First Quarter of Recovery	Output	Labor Input	Labor Productivity
1Q 1961	2Q 1961	101.9	99.0	102.9
4Q 1970	1Q 1971	102.6	100.3	102.2
1Q 1975	2Q 1975	101.7	99.0	102.7
4Q 1982	1Q 1983	101.1	100.6	100.6

If this is to be a classic recovery, we need to see stronger increases in output. Here is the performance pattern for the first year of the past three recoveries:

Following Year's Performance
(Turning Point = 100.00)

Recession Turning Point	First Quarter of Recovery	Output	Labor Input	Labor Productivity
1Q 1961	1Q 1962	107.2	101.6	105.5
4Q 1970	4Q 1971	105.3	101.6	103.7
1Q 1975	1Q 1976	108.4	102.8	105.5
4Q 1982	4Q 1983	-------------we'll see-----------		

Total factor productivity showed a similar improvement in the first quarter of 1983, an annualized increase of 2.4 percent. Though real capital input continued its steady quarterly increase (unbroken since World War II), output increased faster, giving the first improvement in the capital productivity ratio since first quarter 1981. The goods-producing industries increased enough in capital productivity to offset a smaller 2.5 percent annualized decline in services capital productivity. Goods total factor productivity increased 3.3 percent and service total factor productivity increased 1.5 percent, both annualized.

Non-financial corporate business showed a 5.1 percent annualized increase in total factor productivity, so we can infer that financial and non-corporate sectors had relatively poor results in the quarter.

Table I
Multiple Input Productivity
By Major Segment of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
1. Total Factor Productivity					
Business Economy	1.7%	2.6%	1.7%	0.4%	-0.5%
Goods Producing Industries	2.3	3.5	2.3	0.4	-0.1
Service Producing Industries	1.3	1.8	1.3	0.6	-0.4
Farming	3.6	4.1	3.1	1.8	5.6
Manufacturing Industry	1.9	2.6	2.3	0.7	-0.6
Nonfarm Nonmanufacturing Industry	1.2	1.9	1.1	0.2	-0.6
Nonfinancial Corporate Business	1.7	2.6	1.5	0.7	-0.3
2. Labor Productivity (Output per hour worked)					
Business Economy	2.4%	3.2%	2.4%	0.8%	0.8%
Goods Producing Industries	2.9	4.0	2.7	0.8	1.5
Service Producing Industries	1.8	2.3	2.1	0.8	0.3
Farming	5.1	5.3	4.8	3.2	8.1
Manufacturing Industry	2.6	3.0	2.8	1.5	1.8
Nonfarm Nonmanufacturing Industry	1.7	2.4	1.8	0.4	0.2
Nonfinancial Corporate Business	2.2	3.1	2.1	0.7	0.5
3. Capital Productivity (Output per unit of capital input)					
Business Economy	0.1%	0.8%	0.1%	-0.4%	-2.9%
Goods Producing Industries	0.1	1.1	0.8	-1.3	-5.0
Service Producing Industries	0.1	0.5	-0.2	0.3	-1.5
Farming	0.3	-0.3	0.0	0.1	5.3
Manufacturing Industry	-0.4	0.9	0.3	-1.7	-6.4
Nonfarm Nonmanufacturing Industry	-0.1	0.4	-0.4	-0.1	-2.0
Nonfinancial Corporate Business	0.3	0.9	-0.1	0.4	-2.4

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Table II

Outputs, Inputs and Capital-Labor Ratio
By Major Segment of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
1. Output (Real product, in 1972 dollars)					
Business Economy	3.2%	3.6%	3.9%	2.7%	-0.1%
Goods Producing Industries	2.7	3.6	3.3	1.6	-2.3
Service Producing Industries	3.5	3.6	4.3	3.5	1.3
Farming	1.5	0.9	0.9	1.6	6.0
Manufacturing Industry	3.1	4.0	4.1	2.0	-2.7
Nonfarm Nonmanufacturing Industry	3.3	3.6	3.9	3.1	0.8
Nonfinancial Corporate Business	3.9	4.6	5.0	3.0	-0.8
2. Labor Input (Hours worked)					
Business Economy	0.8%	0.4%	1.4%	1.9%	-0.9%
Goods Producing Industries	-0.2	-0.4	0.6	0.8	-3.7
Service Producing Industries	1.7	1.2	2.1	2.7	1.0
Farming	-3.4	-4.2	-3.7	-1.5	-2.0
Manufacturing Industry	0.5	1.0	1.2	0.5	-4.4
Nonfarm Nonmanufacturing Industry	1.6	1.2	2.1	2.8	0.6
Nonfinancial Corporate Business	1.7	1.5	2.8	2.3	-1.3

June 10, 1983

Table II (Cont'd)

Outputs, Inputs and Capital-Labor Ratio By Major Segment of the Economy (Selected Periods, 1948 - 82)

Average Annual Rates of Change

3. Capital Input

	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	3.1%	2.8%	3.8%	3.2%	2.8%
Goods Producing Industries	2.6	2.4	2.5	3.0	2.8
Service Producing Industries	3.4	3.1	4.5	3.3	2.8
Farming	1.1	1.2	0.9	1.5	0.6
Manufacturing Industry	3.4	3.1	3.7	3.8	4.0
Nonfarm Nonmanufacturing Industry	3.4	3.2	4.3	3.3	2.8
Nonfinancial Corporate Business	3.7	3.7	5.1	2.6	1.7

4. Capital - Labor Ratio

	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	2.3%	2.4%	2.3%	1.3%	3.8%
Goods Producing Industries	2.8	2.8	1.9	2.1	6.8
Service Producing Industries	1.7	1.8	2.3	0.6	1.8
Farming	4.7	5.7	4.8	3.1	2.6
Manufacturing Industry	2.9	2.1	2.5	3.2	8.8
Nonfarm Nonmanufacturing Industry	1.8	2.0	2.2	0.5	2.2
Nonfinancial Corporate Business	1.9	2.2	2.2	0.3	3.0

Table III a.

Total Factor Productivity
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	1.7%	2.6%	1.7%	0.4%	-0.5%
Goods Producing Industries	2.3	3.5	2.3	0.4	-0.1
Service Producing Industries	1.3	1.8	1.3	0.6	-0.4
Farming	3.6	4.1	3.1	1.8	6.6
Manufacturing	1.9	2.6	2.3	0.7	-0.6
Food	2.9	2.9	4.1	0.1	4.8
Tobacco	1.5	2.3	2.1	0.3	-1.7
Textiles	3.4	3.9	3.0	3.7	1.9
Apparel	2.2	2.0	3.0	3.1	-0.1
Lumber	2.9	4.5	1.3	0.2	3.6
Furniture	1.8	2.1	0.8	3.3	0.4
Paper	1.8	2.2	4.0	0.0	-3.1
Printing & Publishing	1.1	2.4	1.0	-1.2	-1.4
Chemicals	3.0	3.9	4.2	1.2	-1.2
Petroleum	0.5	3.4	2.0	-3.3	-10.8
Rubber	1.5	2.3	2.0	-0.5	0.1
Leather	1.5	1.0	1.7	1.2	4.4
Stone, Clay & Glass	1.3	2.0	0.9	0.1	0.2
Primary Metals	-0.3	0.9	0.9	-2.0	-6.5
Fabricated Metals	1.3	1.7	1.3	0.7	0.0
Machinery, exc. Elec.	1.2	1.4	1.4	0.8	0.1
Electrical Machinery	3.3	4.3	2.8	3.2	-0.4
Transportation Equipment	1.9	3.4	2.3	0.2	-4.0
Instruments	2.6	3.6	2.5	0.9	0.7
Miscellaneous Manufac.	2.3	2.3	3.6	1.9	-0.2
Nonfarm Nonmanufacturing	1.2	1.9	1.1	0.2	-0.6
Mining	0.3	2.3	1.7	-4.1	-5.8
Construction	0.3	2.4	-1.0	-3.0	-1.4
Transportation	1.6	2.0	2.4	1.2	-1.7
Railroad	2.5	4.2	1.2	0.4	2.8
Nonrail	0.9	0.5	2.7	1.2	-2.2
Communications	4.3	5.4	3.2	3.8	1.6
Public Utilities	2.6	5.5	1.5	-1.0	-3.7
Trade	1.9	2.4	2.6	0.7	0.6
Finance & Insurance	0.2	1.0	0.3	-1.0	-2.1
Real Estate	1.4	1.9	0.0	2.6	-0.4
Services	0.3	0.3	-0.2	0.0	2.0
Nonfinancial Corporate Business	1.7	2.6	1.5	0.7	-0.3

Table III b.

Labor Productivity
(Output per Hour)
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	2.4	3.2%	2.4%	0.8%	0.8%
Goods Producing Industries	2.9	4.0	2.7	0.8	1.5
Service Producing Industries	1.8	2.3	2.1	0.8	0.3
Farming	5.1	5.3	4.8	3.2	8.1
Manufacturing	2.6	3.0	2.8	1.5	1.8
Food	3.3	3.2	4.6	0.6	6.0
Tobacco	3.6	4.0	4.0	2.6	1.7
Textiles	4.4	5.0	3.3	4.5	4.2
Apparel	2.5	2.0	3.3	3.5	0.8
Lumber	3.5	4.3	1.8	1.4	7.7
Furniture	2.1	2.1	1.1	3.9	1.8
Paper	2.5	2.5	4.5	1.3	-0.3
Printing & Publishing	1.4	2.4	1.5	-0.8	-0.2
Chemicals	4.0	4.8	4.8	2.5	1.2
Petroleum	2.5	5.6	3.3	-1.9	-7.5
Rubber	1.9	2.5	2.2	0.0	1.7
Leather	1.9	1.2	2.2	1.6	5.6
Stone, Clay & Glass	2.0	2.6	1.2	0.9	3.5
Primary Metals	0.6	1.5	1.5	-1.4	-2.5
Fabricated Metals	1.8	2.1	1.5	1.3	1.8
Machinery, exc. Elec.	1.8	1.7	2.0	1.3	2.6
Electrical Machinery	3.8	4.5	3.4	3.8	1.2
Transportation Equipment	2.7	3.6	3.1	1.0	-0.6
Instruments	3.1	3.8	3.1	1.2	2.7
Miscellaneous Manufac.	2.9	2.8	4.0	2.2	2.0
Nonfarm Nonmanufacturing	1.7	2.4	1.8	0.4	0.2
Mining	1.1	4.3	2.4	-5.3	-6.2
Construction	0.4	2.6	-0.9	-3.0	-1.1
Transportation	2.0	2.3	2.6	1.3	-0.5
Railroad	3.1	4.8	1.8	0.4	2.7
Nonrail	1.2	0.8	3.2	1.6	-1.2
Communications	5.6	6.5	4.8	5.3	3.1
Public Utilities	4.2	6.9	3.8	0.7	-3.0
Trade	2.3	2.8	3.2	1.0	-0.2
Finance & Insurance	0.9	1.3	1.2	-0.1	-0.5
Real Estate	0.6	1.2	0.1	0.1	0.3
Services	0.6	0.9	0.3	-0.2	1.8
Nonfinancial Corporate Business	2.2	3.1	2.1	0.7	0.5

Table III c.

Capital Productivity
(Output per Unit Capital)
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	0.1%	0.8%	0.1%	-0.4%	-2.9%
Goods Producing Industries	0.1	1.1	0.8	-1.3	-5.0
Service Producing Industries	0.1	0.5	-0.2	0.3	-1.5
Farming	0.3	-0.3	0.0	0.1	5.3
Manufacturing	-0.4	0.9	0.3	-1.7	-6.4
Food	1.4	2.1	2.5	-1.9	1.0
Tobacco	-1.2	-1.4	0.4	-1.3	-3.6
Textiles	-0.6	-1.6	1.5	1.1	-4.3
Apparel	-0.1	1.3	-0.9	-0.3	-5.5
Lumber	1.2	5.2	-1.4	-3.3	-5.0
Furniture	0.3	2.0	-1.2	0.4	-5.5
Paper	0.0	1.5	2.5	-3.1	-8.2
Printing & Publishing	0.0	2.6	-1.7	-2.4	-5.4
Chemicals	1.2	2.2	3.1	-1.1	-4.4
Petroleum	-0.9	1.5	0.9	-4.1	-12.5
Rubber	0.0	1.3	1.0	-2.3	-5.0
Leather	-1.5	-0.7	-3.0	-1.9	-2.0
Stone, Clay & Glass	-1.2	-0.1	-0.1	-2.3	-7.3
Primary Metals	-3.3	-1.7	-1.0	-4.2	-15.6
Fabricated Metals	-1.8	-1.2	-0.3	-2.3	-7.5
Machinery, exc. Elec.	-1.4	-0.6	-1.1	-1.3	-7.0
Electrical Machinery	1.1	3.5	-0.7	0.5	-5.9
Transportation Equipment	-0.3	2.8	-1.0	-2.1	-11.5
Instruments	0.7	1.8	0.4	0.3	-3.6
Miscellaneous Manufac.	-0.5	-0.6	2.0	0.3	-7.6
Nonfarm Nonmanufacturing	0.1	0.4	-0.4	-0.1	-2.0
Mining	-1.7	-2.0	0.7	-2.4	-5.1
Construction	-2.2	-1.7	-2.7	-2.4	-4.7
Transportation	-0.1	-0.1	1.3	0.9	-5.8
Railroad	-0.9	-0.3	-1.1	0.2	-6.3
Nonrail	-1.4	-1.4	0.0	-0.5	-6.2
Communications	0.7	0.3	0.8	2.0	0.0
Public Utilities	0.5	2.8	-0.5	-2.1	-4.2
Trade	-1.3	-1.1	-1.4	-0.7	-2.7
Finance & Insurance	-3.4	-1.4	-4.6	-5.3	-7.4
Real Estate	1.4	2.0	0.0	2.8	-0.5
Services	-0.6	-1.2	-1.1	0.4	2.4
Nonfinancial Corporate Business	0.3	0.9	-0.1	0.4	-2.4

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Table III d.

Capital - Labor Ratio
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	2.3%	2.4%	2.3%	1.3%	3.8%
Goods Producing Industries	2.8	2.8	1.9	2.1	6.8
Service Producing Industries	1.7	1.8	2.3	0.6	1.8
Farming	4.7	5.7	4.8	3.1	2.6
Manufacturing	2.9	2.1	2.5	3.2	8.8
Food	1.9	1.1	2.0	2.5	5.0
Tobacco	4.8	5.5	3.7	4.0	5.5
Textiles	5.1	6.6	1.8	3.4	8.9
Apparel	2.6	0.6	4.2	3.8	6.7
Lumber	2.3	-0.9	3.2	4.9	13.4
Furniture	1.9	0.1	2.4	3.4	7.7
Paper	2.5	1.0	2.0	4.5	8.6
Printing & Publishing	1.4	-0.2	3.3	1.6	5.5
Chemicals	2.8	2.5	1.7	3.6	5.9
Petroleum	3.4	4.0	2.4	2.3	5.7
Rubber	1.9	1.1	1.2	2.3	7.1
Leather	3.5	1.9	5.3	3.6	7.8
Stone, Clay & Glass	3.2	2.7	1.3	3.3	11.6
Primary Metals	4.0	3.2	2.5	2.9	15.6
Fabricated Metals	3.6	3.4	1.8	3.7	10.1
Machinery, exc. Elec.	3.3	2.4	3.1	2.6	10.3
Electrical Machinery	2.7	0.9	4.2	3.3	7.5
Transportation Equipment	3.0	0.8	4.2	3.2	12.4
Instruments	2.4	2.0	2.7	1.0	6.5
Miscellaneous Manufac.	3.4	3.5	2.0	1.9	10.3
Nonfarm Nonmanufacturing	1.8	2.0	2.2	0.5	2.2
Mining	2.9	6.3	1.7	-3.0	-1.2
Construction	2.8	4.3	1.8	-0.6	3.7
Transportation	2.1	2.4	1.3	0.4	5.5
Railroad	4.1	5.1	2.8	0.2	9.6
Nonrail	2.7	2.2	3.2	2.1	5.4
Communications	4.8	6.2	3.9	3.2	3.1
Public Utilities	3.6	4.0	4.3	2.8	1.3
Trade	3.6	3.9	4.7	1.7	2.6
Finance & Insurance	4.4	2.8	6.1	5.6	7.5
Real Estate	-0.8	-0.7	0.1	-2.9	0.8
Services	1.2	2.1	1.4	-0.6	-0.5
Nonfinancial Corporate Business	1.9	2.2	2.2	0.3	3.0

Table III e.
SPECIAL ANALYSES

Output and Labor Hours
By Major Industries of the Economy
Per Cent Change From Previous Year
1981 and 1982

	Output		Labor Hours	
	1980-81	1981-82	1980-81	1981-82
Business Economy	2.5%	-1.4%	0.7%	-2.6%
Goods Producing Industries	2.6	-5.1	-0.7	-6.8
Service Producing Industries	2.4	1.1	1.6	0.3
Farming	13.2	4.5	-0.4	-3.0
Manufacturing	2.3	-5.8	-0.6	-7.9
Food	1.5	4.4	-1.9	-2.9
Tobacco	1.7	-5.2	2.9	-8.3
Textiles	-0.5	-4.4	-4.4	-13.6
Apparel	-1.1	-7.4	-1.1	-9.6
Lumber	4.0	-3.6	-4.4	-9.9
Furniture	4.0	-8.0	1.8	-7.7
Paper	1.3	-5.0	-0.4	-5.3
Printing & Publishing	4.4	-3.9	1.0	0.0
Chemicals	2.7	-1.4	-0.3	-4.5
Petroleum	-3.3	-12.6	12.3	-2.0
Rubber	7.0	-7.6	2.3	-7.4
Leather	0.1	4.6	1.2	-11.8
Stone, Clay & Glass	1.4	-8.0	-4.9	-11.0
Primary Metals	1.4	-27.2	-1.1	-21.8
Fabricated Metals	-1.0	-7.9	-1.8	-11.7
Machinery, exc. Elec.	5.0	-9.9	-0.3	-11.2
Electrical Machinery	3.4	-3.7	0.2	-1.2
Transportation Equipment	0.9	-4.7	0.2	-9.2
Instruments	3.2	2.0	1.9	-4.3
Miscellaneous Manufac.	4.4	-8.2	-0.4	-5.1
Nonfarm Nonmanufacturing	2.1	0.4	1.2	-0.4
Mining	3.4	-10.0	11.1	-2.7
Construction	-2.4	-4.9	-3.8	-5.8
Transportation	-3.5	-5.7	-1.4	-9.8
Railroad	-5.7	-8.8	-6.8	-14.6
Nonrail	-3.0	-5.0	-0.2	-8.8
Communications	5.5	0.4	1.9	-0.6
Public Utilities	0.6	-3.9	2.8	1.4
Trade	2.9	-1.7	0.4	-0.8
Finance & Insurance	3.0	1.8	4.2	3.0
Real Estate	1.7	-1.8	-3.0	2.4
Services	3.0	9.7	3.2	2.8
Nonfinancial Corporate Business	2.4	-2.9	0.7	-3.7

Table III f.
SPECIAL ANALYSES

Employment* in Manufacturing
1981 and 1982

	1981	1982	1982/1981
	(Thousands)		Percent
Manufacturing	20173	18848	-6.6%
Food	1674	1644	-1.8
Tobacco	69	65	-5.8
Textiles	822	748	-9.0
Apparel	1244	1158	-6.9
Lumber	668	613	-8.2
Furniture	467	441	-5.6
Paper	687	659	-4.1
Printing & Publishing	1265	1270	0.4
Chemicals	1107	1074	-3.0
Petroleum	215	206	-4.2
Rubber	736	697	-5.3
Leather	233	210	-9.9
Stone, Clay & Glass	638	577	-9.6
Primary Metals	1121	918	-18.1
Fabricated Metals	1592	1442	-9.4
Machinery, exc. Elec.	2507	2288	-8.7
Electrical Machinery	2092	2011	-3.9
Transportation Equipment	1892	1726	-8.8
Instruments	726	705	-2.9
Miscellaneous Manufac.	410	387	-5.6

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*All employees exclusive of Self-employed and unpaid family workers. Source: Dept. of Labor.

TABLE IV - 1. Business Economy

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	89.9	97.3	92.2	95.6	94.1	92.5	97.6	94.8
1975	88.2	93.3	94.2	93.6	94.2	94.5	93.6	101.0
1976	93.8	96.0	96.8	96.3	97.4	97.6	96.9	100.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.5	104.9	103.4	104.4	101.0	100.6	102.0	98.6
1979	107.8	108.2	107.4	108.0	99.9	99.6	100.4	99.2
1980	106.2	107.4	110.6	108.5	97.9	98.9	96.0	103.0
1981	108.9	108.1	114.2	110.1	98.9	100.7	95.3	105.6
1982	107.4	105.4	116.8	109.1	98.4	101.9	91.9	110.9

TABLE IV - 2. Goods Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	93.0	101.5	93.0	99.6	93.4	91.6	100.0	91.6
1975	87.3	92.7	94.9	93.2	93.6	94.1	92.0	102.4
1976	94.3	95.9	97.1	96.2	98.0	98.3	97.1	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.9	105.3	102.6	104.6	100.3	99.7	102.3	97.5
1979	107.6	107.9	107.4	107.7	99.8	99.7	100.1	99.6
1980	103.1	104.0	110.8	105.5	97.7	99.1	93.1	106.5
1981	105.7	103.3	114.8	105.9	99.8	102.4	92.1	111.1
1982	100.4	96.3	116.9	101.0	99.4	104.3	85.9	121.4

TABLE IV - 3. Service Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	87.8	94.2	91.7	93.2	94.2	93.2	95.7	97.4
1975	88.8	93.7	93.8	93.7	94.7	94.8	94.6	100.2
1976	93.4	96.1	96.6	96.3	97.0	97.2	96.7	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	104.6	103.8	104.3	101.5	101.2	101.9	99.3
1979	108.0	108.5	107.4	108.1	99.9	99.6	100.6	99.0
1980	108.5	109.9	110.6	110.2	98.4	98.7	98.1	100.6
1981	111.1	111.6	113.9	112.5	98.7	99.5	97.5	102.1
1982	112.3	111.9	116.8	113.8	98.7	100.4	96.2	104.3

TABLE IV - 4. Nonfinancial Corporate Business

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	89.0	95.9	92.5	95.0	93.6	92.8	96.2	96.5
1975	87.2	91.4	92.7	91.7	95.1	95.5	94.1	101.5
1976	93.7	95.3	95.8	95.5	98.1	98.2	97.8	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.3	105.4	104.0	105.0	101.2	100.9	102.3	98.6
1979	110.1	109.3	105.4	108.3	101.7	100.7	104.4	96.4
1980	108.1	107.8	106.3	107.4	100.7	100.3	101.7	98.6
1981	110.7	108.5	110.1	108.9	101.7	102.1	100.5	101.5
1982	107.5	104.5	110.8	106.1	101.2	102.9	97.0	106.1

TABLE IV - 5. Farming

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	94.9	109.3	95.8	102.5	92.6	86.8	99.0	87.7
1975	100.9	105.6	98.2	101.9	99.0	95.5	102.7	93.0
1976	96.3	100.9	98.9	99.9	96.4	95.4	97.4	98.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.6	101.8	98.8	100.0	98.6	96.9	99.8	97.1
1979	103.9	99.7	103.7	101.4	102.4	104.2	100.2	104.0
1980	104.5	97.2	104.1	100.4	104.1	107.5	100.3	107.2
1981	118.3	96.8	105.4	100.8	117.3	122.2	112.2	108.9
1982	123.6	93.9	105.6	99.5	124.2	131.6	117.0	112.4

TABLE IV - 6. Manufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	91.9	101.2	92.1	98.9	92.9	90.8	99.8	90.9
1975	85.4	91.4	93.6	92.0	92.8	93.4	91.3	102.3
1976	93.6	95.9	96.5	96.1	97.4	97.5	96.9	100.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.3	104.5	104.2	104.4	100.9	100.8	101.1	99.8
1979	108.2	106.6	109.4	107.3	100.9	101.5	98.9	102.6
1980	103.6	101.8	114.5	105.0	98.6	101.7	90.4	112.5
1981	105.9	101.2	120.1	106.0	99.9	104.6	88.2	118.7
1982	99.8	93.2	123.1	100.7	99.1	107.1	81.0	132.1

TABLE IV - 7. Nonfarm Nonmanufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	88.8	94.6	91.6	93.5	94.9	93.9	96.9	96.9
1975	88.9	93.2	93.7	93.4	95.2	95.4	94.9	100.6
1976	93.7	95.7	96.5	96.0	97.6	97.9	97.1	100.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	105.3	103.9	104.8	101.0	100.5	101.9	98.7
1979	107.8	109.6	107.5	108.9	99.0	98.4	100.3	98.1
1980	107.6	110.7	110.7	110.7	97.2	97.2	97.2	100.0
1981	109.9	112.1	114.1	112.8	97.4	98.1	96.3	101.8
1982	110.3	111.6	116.9	113.5	97.2	98.8	94.4	104.7

TABLE V - 1. Mining

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	98.6	83.2	88.3	85.3	115.5	118.5	111.6	106.2
1975	96.7	88.8	91.2	89.8	107.6	108.8	106.0	102.6
1976	97.9	94.5	94.9	94.7	103.4	103.6	103.1	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.0	104.7	104.9	104.8	98.3	98.4	98.1	100.2
1979	106.8	116.6	109.1	113.5	94.1	91.6	97.8	93.6
1980	110.6	126.1	113.5	120.9	91.5	87.7	97.4	90.0
1981	114.4	140.0	119.1	131.4	87.1	81.7	96.0	85.1
1982	102.9	136.2	123.0	130.7	78.7	75.6	83.7	90.3

TABLE V - 2. Contract Construction

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	97.0	101.0	96.6	100.6	96.4	96.0	100.4	95.6
1975	87.9	89.8	96.7	90.3	97.3	97.9	90.9	107.7
1976	96.0	92.4	96.4	92.8	103.5	103.9	99.6	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.9	111.6	105.2	111.2	96.2	95.8	101.6	94.3
1979	106.0	118.2	107.0	117.4	90.3	89.7	99.0	90.5
1980	96.9	114.7	106.1	114.1	84.9	84.5	91.3	92.5
1981	94.6	110.3	105.7	110.0	86.0	85.8	89.5	95.8
1982	89.9	103.9	104.8	104.0	86.4	86.6	85.8	100.9

TABLE V - 3. Total Transportation

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	96.7	99.8	95.5	98.9	97.7	96.9	101.3	95.6
1975	90.2	94.2	97.2	94.8	95.1	95.8	92.8	103.2
1976	94.7	96.3	98.7	96.8	97.8	98.3	95.9	102.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.4	105.1	101.5	104.3	103.0	102.2	105.8	96.6
1979	110.0	108.5	103.0	107.4	102.4	101.4	106.7	95.0
1980	102.2	104.7	103.8	104.6	97.7	97.5	98.4	99.1
1981	98.6	103.3	104.1	103.4	95.3	95.5	94.8	100.8
1982	93.0	93.2	104.1	95.4	97.4	99.8	89.3	111.7

TABLE V - 3a. Railroad Transportation

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	107.8	108.3	101.6	106.8	101.0	99.6	106.1	93.9
1975	94.7	100.1	101.2	100.4	94.4	94.6	93.6	101.0
1976	99.3	99.2	100.5	99.5	99.8	100.1	98.8	101.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.8	99.4	99.6	99.5	104.3	104.4	104.2	100.2
1979	103.4	103.0	99.2	102.2	101.2	100.4	104.2	96.3
1980	97.1	96.5	98.7	97.0	100.1	100.6	98.4	102.2
1981	91.5	89.9	98.0	91.8	99.8	101.8	93.4	109.0
1982	83.5	76.8	97.4	81.4	102.5	108.7	85.8	126.8

TABLE V - 3b. Nonrail Transportation

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	93.9	97.8	89.6	96.2	97.6	96.0	104.8	91.6
1975	89.1	92.8	93.5	92.9	95.9	96.0	95.3	100.7
1976	93.5	95.7	96.9	95.9	97.5	97.7	96.5	101.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	106.2	103.2	105.6	102.6	102.0	104.9	97.2
1979	111.6	109.8	106.7	109.1	102.3	101.7	104.6	97.2
1980	103.4	106.7	108.7	107.1	96.6	96.9	95.2	101.8
1981	100.4	106.4	109.9	107.1	93.7	94.3	91.4	103.2
1982	95.3	97.1	110.4	99.7	95.6	98.2	86.3	113.8

TABLE V - 4. Communications

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	79.9	100.4	88.1	94.5	84.6	79.6	90.7	87.7
1975	87.0	97.4	91.7	94.7	91.9	89.3	94.9	94.1
1976	93.4	96.8	95.2	96.0	97.3	96.5	98.1	98.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.8	105.3	106.0	105.6	104.0	104.3	103.6	100.7
1979	117.7	111.2	112.4	111.7	105.4	105.9	104.7	101.2
1980	128.2	115.5	119.0	117.1	109.5	111.0	107.8	103.0
1981	135.3	117.6	125.0	121.1	111.7	115.0	108.2	106.3
1982	135.9	117.0	129.7	123.0	110.4	116.2	104.8	110.9

TABLE V - 5. Public Utilities

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	90.1	100.1	88.8	93.1	96.8	90.0	101.5	88.7
1975	96.2	97.7	92.2	94.3	102.1	98.5	104.4	94.3
1976	96.7	98.0	95.7	96.6	100.1	98.6	101.0	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.7	105.5	104.5	104.9	98.9	98.4	99.2	99.1
1979	107.5	109.4	109.2	109.2	98.4	98.3	98.5	99.8
1980	108.7	112.3	113.3	112.9	96.2	96.8	95.9	100.9
1981	109.3	115.4	117.3	116.6	93.7	94.7	93.2	101.6
1982	105.0	117.0	121.4	119.7	87.8	89.8	86.5	103.8

TABLE V - 6. Trade

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	89.6	94.4	91.0	93.8	95.5	94.9	98.5	96.4
1975	90.8	94.3	91.0	93.8	96.8	96.2	99.7	96.5
1976	95.3	96.8	94.9	96.5	98.7	98.4	100.4	98.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.9	103.6	105.5	103.9	101.9	102.2	100.4	101.8
1979	108.5	105.7	108.6	106.2	102.2	102.6	99.9	102.7
1980	105.3	104.9	110.2	105.7	99.6	100.4	95.6	105.1
1981	108.4	105.3	114.1	106.7	101.6	102.9	95.0	108.3
1982	106.6	104.5	115.9	106.3	100.2	102.0	91.9	110.9

TABLE V - 7. Finance and Insurance

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	93.0	93.0	78.6	90.2	103.1	99.9	118.3	84.5
1975	95.0	94.6	84.5	92.6	102.6	100.4	112.5	89.2
1976	96.1	96.4	91.5	95.4	100.7	99.7	105.0	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.1	107.0	110.4	107.6	97.6	98.2	95.2	103.2
1979	109.4	111.8	122.5	113.9	96.1	97.9	89.3	109.6
1980	112.8	114.3	136.0	118.6	95.2	98.7	82.9	119.0
1981	116.2	119.1	151.0	125.3	92.7	97.6	76.9	126.8
1982	118.3	122.6	166.8	131.3	90.1	96.5	70.9	136.1

TABLE V - 8. Real Estate

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	87.4	92.5	96.1	95.8	91.2	94.5	91.0	103.9
1975	86.2	91.3	97.1	96.7	89.1	94.4	88.8	106.3
1976	90.7	93.6	98.3	98.0	92.5	96.9	92.2	105.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.4	110.9	101.9	102.6	101.7	94.1	102.4	91.9
1979	110.8	119.6	103.8	105.0	105.5	92.6	106.7	86.8
1980	113.0	121.4	105.3	106.5	106.1	93.0	107.3	86.7
1981	114.9	117.8	106.5	107.4	107.0	97.5	107.9	90.4
1982	112.9	120.7	107.4	108.4	104.1	93.5	105.1	89.0

TABLE V - 9. Services

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	81.9	91.9	91.0	91.7	89.3	89.1	89.9	99.0
1975	83.0	92.0	93.8	92.5	89.8	90.3	88.6	102.0
1976	89.6	95.0	96.7	95.5	93.8	94.4	92.6	101.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.5	104.7	103.8	104.5	101.0	100.8	101.6	99.1
1979	102.5	110.3	107.4	109.5	93.6	92.9	95.4	97.3
1980	106.4	115.5	111.0	114.2	93.2	92.1	95.9	96.0
1981	109.6	119.3	114.4	117.8	93.0	91.9	95.8	95.9
1982	120.3	122.6	117.5	121.1	99.3	98.1	102.4	95.8

TABLE VI - 1. Food

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	95.0	101.1	92.3	99.1	95.8	94.0	102.9	91.3
1975	95.6	98.1	95.1	97.4	98.1	97.4	100.5	96.9
1976	99.6	100.2	98.2	99.8	99.8	99.4	101.4	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.9	100.1	102.1	100.6	99.3	99.8	97.9	101.9
1979	105.0	101.3	105.1	102.2	102.7	103.6	99.9	103.8
1980	110.6	99.4	108.1	101.5	109.0	111.2	102.3	108.7
1981	112.2	97.5	111.6	100.8	111.4	115.1	100.6	114.4
1982	117.2	94.8	113.8	99.1	118.3	123.7	103.0	120.1

TABLE VI - 2. Tobacco

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	99.4	110.7	95.9	101.7	97.7	89.8	103.6	86.6
1975	102.2	108.4	95.2	100.4	101.8	94.3	107.4	87.8
1976	104.1	107.5	97.2	101.2	102.8	96.8	107.0	90.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.2	100.6	102.7	101.9	99.3	100.6	98.6	102.0
1979	103.1	99.5	102.9	101.6	101.5	103.6	100.2	103.4
1980	104.8	98.3	106.4	103.3	101.4	106.6	98.4	108.3
1981	106.6	101.1	112.6	108.1	98.6	105.4	94.7	111.3
1982	101.0	92.7	112.7	104.9	96.3	109.0	89.7	121.5

TABLE VI - 3. Textiles*

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	80.3	103.8	98.4	102.5	78.4	77.4	81.6	94.9
1975	76.5	93.2	97.8	94.2	81.2	82.1	78.2	105.0
1976	87.9	100.2	98.7	99.9	88.0	87.7	89.0	98.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.2	99.3	101.0	99.8	101.4	101.9	100.2	101.7
1979	102.9	97.1	101.3	98.1	104.8	105.9	101.6	104.3
1980	96.5	92.6	102.5	95.0	101.6	104.1	94.1	110.7
1981	96.0	88.5	104.3	92.2	104.1	108.4	92.0	117.8
1982	91.7	76.5	103.0	82.6	111.0	120.0	89.0	134.7

* Preliminary, subject to revision by BEA.

TABLE VI - 4. Apparel

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	93.5	102.5	95.2	101.6	92.0	91.2	98.2	92.9
1975	91.2	93.7	94.8	93.8	97.2	97.4	96.2	101.2
1976	96.5	100.6	97.4	100.2	96.3	95.9	99.0	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.9	101.2	102.1	101.3	104.5	104.6	103.7	100.9
1979	103.4	98.5	102.3	99.0	104.5	105.0	101.1	103.9
1980	100.6	95.7	104.4	96.8	104.0	105.2	96.3	109.2
1981	99.5	94.6	108.9	96.4	103.2	105.1	91.3	115.1
1982	92.1	85.6	108.0	88.3	104.3	107.7	85.4	126.1

TABLE VI - 5. Lumber

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	90.9	96.6	90.1	94.9	95.7	94.0	100.8	93.3
1975	86.0	81.9	91.9	84.5	101.7	105.0	93.6	112.2
1976	94.9	94.1	95.5	94.4	100.5	100.9	99.4	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	104.5	105.8	104.9	96.6	97.0	95.8	101.3
1979	102.8	106.5	112.2	108.1	95.1	96.5	91.7	105.3
1980	99.1	95.5	117.5	101.3	97.8	103.8	84.4	123.0
1981	103.1	91.3	123.8	99.8	103.3	112.9	83.3	135.5
1982	99.3	82.3	126.3	93.7	106.0	120.7	78.7	153.5

TABLE VI - 6. Furniture

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	91.3	103.8	98.0	102.8	88.8	88.0	93.1	94.5
1975	80.2	86.3	95.4	87.8	91.3	92.9	84.1	110.5
1976	92.2	92.8	97.5	93.6	98.5	99.4	94.6	105.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.2	105.8	104.4	105.6	103.4	103.2	104.6	98.6
1979	112.6	103.7	107.9	104.5	107.8	108.5	104.3	104.0
1980	108.5	96.5	111.6	99.1	109.5	112.5	97.2	115.7
1981	112.8	98.2	117.2	101.4	111.3	114.9	96.3	119.3
1982	103.8	90.6	117.9	95.3	108.9	114.5	88.0	130.2

TABLE VI - 7. Paper

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	99.3	100.5	89.6	97.3	102.1	98.8	110.8	89.2
1975	82.9	90.3	92.2	90.9	91.3	91.8	89.9	102.1
1976	94.6	96.7	96.0	96.5	98.0	97.8	98.5	99.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.2	101.0	104.3	102.0	100.3	101.2	98.1	103.2
1979	105.2	101.3	110.2	104.0	101.2	103.8	95.5	108.8
1980	99.2	98.5	117.0	104.0	95.4	100.8	84.8	118.9
1981	100.5	98.0	124.2	105.9	95.0	102.6	80.9	126.7
1982	95.5	92.8	129.2	103.7	92.1	102.9	73.9	139.1

TABLE VI - 8. Printing & Publishing

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	95.2	97.0	93.0	96.2	98.9	98.1	102.3	95.9
1975	94.8	94.3	94.3	94.3	100.5	100.5	100.5	100.1
1976	95.9	95.7	96.6	95.9	100.0	100.2	99.2	101.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.9	104.5	104.9	104.6	99.3	99.4	99.0	100.4
1979	106.4	108.7	110.4	109.1	97.5	97.9	96.3	101.6
1980	108.0	110.3	117.3	111.7	96.7	98.0	92.1	106.4
1981	112.7	111.4	126.3	114.5	98.4	101.2	89.2	113.4
1982	108.4	111.5	132.8	115.9	93.5	97.2	81.6	119.2

TABLE VI - 9. Chemicals

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	85.4	98.5	86.0	93.6	91.3	86.7	99.3	87.3
1975	85.0	93.3	89.5	91.8	92.6	91.1	95.0	95.9
1976	95.1	96.9	94.3	95.9	99.2	98.2	100.9	97.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.3	102.5	104.1	103.1	100.1	100.7	99.1	101.6
1979	109.0	103.9	107.7	105.4	103.4	104.9	101.2	103.6
1980	105.5	103.1	112.3	106.7	98.9	102.4	94.0	108.9
1981	108.4	102.8	117.6	108.6	99.8	105.4	92.2	114.4
1982	106.9	98.2	120.9	107.2	99.7	108.8	88.4	123.2

TABLE VI - 10. Petroleum

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	97.1	96.2	87.7	90.8	106.9	100.9	110.7	91.2
1975	86.9	93.1	92.0	92.4	94.0	93.3	94.4	98.8
1976	95.8	96.7	96.6	96.6	99.1	99.0	99.2	99.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.1	104.8	102.4	103.0	100.1	98.4	100.8	97.7
1979	100.9	106.4	107.3	106.7	94.5	94.8	94.0	100.9
1980	93.7	95.8	112.6	106.3	88.1	97.8	83.2	117.5
1981	90.6	107.6	119.2	114.8	78.9	84.2	76.0	110.8
1982	79.2	105.4	125.6	118.1	67.1	75.1	63.1	119.2

TABLE VI - 11. Rubber

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	88.6	96.7	92.7	95.8	92.5	91.7	95.6	95.9
1975	80.7	83.6	93.2	85.6	94.3	96.6	86.6	111.5
1976	86.2	89.7	95.1	90.9	94.8	96.0	90.6	105.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	106.0	105.5	105.9	99.7	99.7	100.1	99.5
1979	106.4	109.0	110.6	109.4	97.3	97.6	96.2	101.4
1980	98.4	100.1	113.2	102.8	95.7	98.3	87.0	113.0
1981	105.3	102.4	116.9	105.4	99.9	102.8	90.1	114.1
1982	97.3	94.8	118.1	99.7	97.6	102.6	82.4	124.6

TABLE VI - 12. Leather

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	97.9	105.1	99.2	104.3	93.8	93.1	98.7	94.4
1975	94.6	96.8	97.4	96.9	97.6	97.7	97.1	100.6
1976	107.3	103.1	98.7	102.5	104.6	104.0	108.7	95.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.2	102.1	101.9	102.1	99.1	99.1	99.3	99.8
1979	98.2	95.8	101.9	96.6	101.7	102.6	96.5	106.3
1980	92.0	89.3	103.5	91.2	101.0	103.1	88.9	115.9
1981	92.1	90.4	107.4	92.6	99.5	101.9	85.8	118.8
1982	96.4	79.7	106.2	83.2	115.8	120.9	90.7	133.3

TABLE VI - 13. Stone, Clay, & Glass

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	100.6	105.7	94.6	102.8	97.9	95.3	106.4	89.5
1975	91.7	92.4	95.6	93.2	98.3	99.2	95.8	103.5
1976	100.6	95.8	97.6	96.3	104.5	105.0	103.0	101.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.2	105.0	104.2	104.8	104.2	104.0	104.8	99.2
1979	111.4	106.6	108.5	107.1	104.0	104.5	102.6	101.8
1980	103.4	98.4	113.7	102.3	101.0	105.1	91.0	115.5
1981	104.9	93.6	117.2	99.7	105.2	112.0	89.5	125.2
1982	96.5	83.3	118.0	92.3	104.6	115.8	81.8	141.6

TABLE VI - 14. Primary Metals

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	127.4	109.9	92.6	105.6	120.7	115.9	137.5	84.3
1975	96.0	93.7	95.9	94.2	101.9	102.5	100.2	102.4
1976	100.0	96.5	98.3	96.9	103.2	103.7	101.8	101.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.1	104.3	101.7	103.7	105.2	104.6	107.3	97.4
1979	113.3	106.4	103.9	105.9	107.0	106.5	109.0	97.6
1980	97.1	93.9	105.6	96.9	100.2	103.5	91.9	112.6
1981	98.4	92.8	109.4	97.1	101.4	106.0	90.0	117.8
1982	71.7	72.6	109.4	81.9	87.5	98.7	65.5	150.7

TABLE VI - 15. Fabricated Metals

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	90.4	103.0	92.7	101.3	89.2	87.7	97.4	90.0
1975	81.3	90.6	93.6	91.1	89.3	89.8	86.9	103.3
1976	92.0	95.3	96.6	95.5	96.4	96.6	95.3	101.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.4	105.4	105.0	105.4	99.1	99.0	99.4	99.6
1979	110.3	107.9	109.6	108.1	102.0	102.3	100.6	101.7
1980	102.9	100.3	113.7	102.5	100.4	102.6	90.5	113.3
1981	101.9	98.5	117.7	101.7	100.2	103.4	86.6	119.5
1982	93.8	86.9	118.0	92.1	101.9	107.9	79.5	135.7

TABLE VI - 16. Machinery, except Electrical

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	94.2	103.3	93.1	101.0	93.3	91.2	101.2	90.1
1975	85.9	93.8	93.7	93.8	91.5	91.5	91.7	99.9
1976	92.8	94.7	95.7	94.9	97.8	98.0	97.0	101.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	108.4	106.9	108.0	99.9	99.5	100.9	98.7
1979	115.5	114.9	115.3	115.0	100.5	100.5	100.2	100.3
1980	115.9	114.0	122.8	115.9	99.9	101.6	94.4	107.6
1981	121.7	113.7	131.5	117.6	103.5	107.0	92.5	115.7
1982	109.6	100.9	135.8	108.6	100.9	108.6	80.7	134.6

TABLE VI - 17. Electrical Machinery

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	84.0	103.3	94.2	101.5	82.7	81.3	89.2	91.2
1975	77.8	88.9	91.6	89.5	87.0	87.5	85.0	103.0
1976	86.7	93.5	94.9	93.8	92.5	92.8	91.4	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.6	106.6	106.9	106.7	106.5	106.6	106.3	100.3
1979	121.4	112.3	116.5	113.1	107.3	108.1	104.1	103.8
1980	122.3	109.9	126.3	113.0	108.2	111.3	96.9	114.8
1981	126.5	110.2	135.4	115.0	110.0	114.8	93.4	122.9
1982	121.8	108.9	140.5	114.9	106.0	111.9	86.7	129.0

TABLE VI - 18. Transportation Equipment

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	80.3	95.3	94.1	95.0	84.6	84.3	85.4	98.7
1975	76.7	87.3	93.7	88.9	86.2	87.9	81.8	107.4
1976	90.2	94.1	96.0	94.6	95.3	95.8	93.9	102.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	106.1	106.6	106.2	98.1	98.2	97.7	100.5
1979	98.7	107.2	115.9	109.4	90.2	92.1	85.2	108.1
1980	83.0	96.8	124.1	103.8	80.0	85.7	66.8	128.1
1981	83.7	97.0	128.8	105.1	79.7	86.3	65.0	132.8
1982	79.8	88.1	135.1	100.0	79.7	90.5	59.0	153.4

TABLE VI - 19. Instruments

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	89.0	96.0	91.9	94.8	93.9	92.8	96.9	95.8
1975	84.9	87.3	92.4	88.8	95.7	97.3	92.0	105.8
1976	91.4	92.8	96.1	93.8	97.4	98.5	95.1	103.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	106.7	104.7	106.3	101.6	101.2	103.1	98.2
1979	112.0	113.0	112.0	112.9	99.2	99.2	100.0	99.1
1980	114.5	115.0	120.3	116.8	98.1	99.5	95.2	104.5
1981	118.2	117.3	129.8	121.2	97.5	100.7	91.0	110.7
1982	120.5	112.2	134.5	119.0	101.2	107.3	89.6	119.8

TABLE VI - 20. Miscellaneous Manufactures

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1974	87.3	101.0	101.8	101.2	86.3	86.4	85.7	100.8
1975	89.8	92.6	94.7	93.0	96.5	96.9	94.8	102.3
1976	92.5	96.5	99.2	97.0	95.4	95.9	93.3	102.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	104.7	102.6	104.1	96.8	96.2	98.2	98.0
1979	102.4	101.3	110.2	102.8	99.7	101.1	93.0	108.7
1980	99.8	94.4	118.7	98.7	101.2	105.8	84.1	125.7
1981	104.3	94.0	128.5	100.1	104.1	110.9	81.1	136.7
1982	95.7	89.2	130.3	96.5	99.1	107.3	73.4	146.0

Table VII
Quarterly Indexes of Productivity
1982 I to 1983 I
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. **Business Economy**

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982 I	97.4	100.1	92.6	108.1
II	97.5	100.4	92.1	109.0
III	97.9	101.3	91.8	110.3
IV	97.9	102.0	90.7	112.5
1983 I	98.5	102.6	91.3	112.3
1981	98.9	100.7	95.3	105.6
1982	98.4	101.9	91.9	110.9
Percent Change: (Annual Rate)				
1982 I	-3.1	-0.8	-7.4	7.1
II	0.2	1.3	-1.8	3.1
III	1.9	3.7	-1.3	5.1
IV	-0.1	2.6	-4.9	7.9
1983 I	2.4	2.2	2.9	-0.6
1981	0.9	1.8	-0.7	2.6
1982	-0.4	1.2	-3.6	5.0

2. **Goods Producing Industries**

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982 I	96.3	100.1	85.7	116.8
II	96.1	100.4	84.3	119.0
III	96.9	101.8	83.5	121.9
IV	98.8	104.7	83.5	125.4
1983 I	99.6	105.1	85.2	123.2
1981	99.8	102.4	92.1	111.1
1982	99.4	104.3	85.9	121.4
Percent Change: (Annual Rate)				
1982 I	-6.9	-3.1	-17.0	16.8
II	-0.8	1.2	-6.0	7.7
III	3.2	5.9	-3.7	10.0
IV	8.4	11.8	-0.1	12.0
1983 I	3.3	1.4	8.6	-6.6
1981	2.2	3.2	-1.0	4.3
1982	-0.4	1.9	-6.7	9.2

Table VII (Cont'd)
Quarterly Indexes of Productivity
1982 I to 1983 I
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

3. Service Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	98.8	100.0	97.4	102.7
	II	99.0	100.3	97.6	102.8
	III	99.4	100.9	97.7	103.3
	IV	98.2	100.2	95.8	104.7
1983	I	98.6	100.9	95.7	105.4
1981		98.7	99.5	97.5	102.1
1982		98.7	100.5	96.2	104.3
Percent Change: (Annual Rate)					
1982	I	0.1	0.6	-0.6	1.2
	II	1.2	1.3	1.0	0.3
	III	1.5	2.4	0.2	2.2
	IV	-4.6	-2.6	-7.6	5.4
1983	I	1.5	2.7	-0.3	3.0
1981		0.3	0.9	-0.6	1.5
1982		0.0	0.9	-1.3	2.2

4. Nonfinancial Corporate Business

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	100.6	101.8	97.8	104.1
	II	101.0	102.4	97.5	105.0
	III	101.7	103.6	97.1	106.7
	IV	101.5	103.7	95.9	108.1
1983	I	102.7	104.9	97.4	107.7
1981		101.7	102.1	100.5	101.5
1982		101.2	102.9	97.0	106.1
Percent Change: (Annual Rate)					
1982	I	-1.3	0.4	-5.9	6.7
	II	1.7	2.7	-1.1	3.8
	III	2.8	4.6	-1.8	6.5
	IV	-1.1	0.4	-4.9	5.5
1983	I	5.1	4.6	6.5	-1.8
1981		1.0	1.8	-1.2	3.0
1982		-0.4	0.8	-3.6	4.5

Table VII (Cont'd)
Quarterly Indexes of Productivity
1982 I to 1983 I
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

5. Farming

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	116.6	122.4	111.4	109.8
	II	117.6	125.3	110.9	113.0
	III	121.9	129.9	114.9	113.0
	IV	140.6	151.6	131.4	115.3
1983	I	125.9	131.6	120.9	108.8
1981		117.3	122.2	112.2	108.9
1982		124.2	131.6	117.0	112.4

Percent Change: (Annual Rate)

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	-34.7	-34.7	-34.7	0.0
	II	3.5	9.9	-1.9	12.0
	III	15.5	15.6	15.4	0.2
	IV	77.3	85.2	70.8	8.4
1983	I	-35.8	-43.2	-28.3	-20.8
1981		12.7	13.6	11.8	1.6
1982		5.9	7.7	4.3	3.3

6. Manufacturing Industry

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	96.0	102.4	81.1	126.2
	II	95.6	102.6	79.5	129.0
	III	96.5	104.4	78.7	132.7
	IV	95.8	104.7	76.5	136.9
1983	I	97.8	106.8	78.4	136.3
1981		99.9	104.6	88.2	118.7
1982		99.1	107.1	81.0	132.1

Percent Change: (Annual Rate)

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	-6.6	-2.1	-16.5	17.3
	II	-1.8	0.9	-7.7	9.3
	III	3.6	7.3	-4.2	11.9
	IV	-2.9	1.0	-10.7	13.1
1983	I	8.9	8.3	10.2	-1.7
1981		1.3	2.8	-2.5	5.5
1982		-0.9	2.3	-8.1	11.3

Table VII (Cont'd)
Quarterly Indexes of Productivity
1982 I to 1983 Ix
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

7. Nonfarm Nonmanufacturing Industry

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	97.2	98.3	95.6	102.8
	II	97.5	98.6	95.8	103.0
	III	97.7	99.1	95.5	103.8
	IV	97.2	99.2	94.2	105.4
1983	I	97.9	100.0	94.6	105.7
1981		97.4	98.1	96.3	101.8
1982		97.2	98.8	94.4	104.7
Percent Change: (Annual Rate)					
1982	I	0.9	2.3	-1.7	4.1
	II	0.9	1.2	0.6	0.6
	III	0.9	2.1	-1.1	3.2
	IV	-1.8	0.4	-5.4	6.1
1983	I	2.6	3.1	1.8	1.3
1981		0.2	0.9	-0.9	1.8
1982		-0.3	0.8	-2.0	2.9

Note: Percent changes are average annual rates of change from the previous quarter. Output and labor are revised, as published by the Bureau of Labor Statistics, Department of Labor, May 26, 1983, "Productivity and Costs" release. Annual output for Manufacturing and Business sectors reflects latest release by the Dept. of Commerce, Bureau of Economic Analysis. Other annual and quarterly data consistent with the B.L.S. publication.

TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

1. Business Economy

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1975 I	85.7	93.0	92.5	93.8	91.4	92.1	92.6	99.5
1975 II	87.2	92.1	93.0	93.3	93.4	94.6	93.8	100.9
1975 III	89.5	93.2	93.5	94.2	95.0	96.0	95.7	100.4
1975 IV	90.3	94.4	94.1	95.2	94.9	95.7	96.0	99.6
1976 I	92.9	95.6	94.7	96.2	96.6	97.2	98.2	99.0
1976 II	93.5	95.8	95.3	96.6	96.8	97.6	98.1	99.5
1976 III	94.0	96.1	96.0	97.0	97.0	97.9	98.0	99.9
1976 IV	94.6	96.6	96.7	97.5	97.0	98.0	97.9	100.1
1977 I	97.0	97.6	97.5	98.4	98.6	99.4	99.5	99.9
1977 II	99.5	99.9	98.3	99.8	99.6	99.6	101.2	98.4
1977 III	101.5	100.6	99.2	100.4	101.1	100.9	102.3	98.6
1977 IV	102.0	101.5	100.0	101.1	100.9	100.5	102.0	98.5
1978 I	102.7	102.2	100.8	101.8	100.8	100.4	101.9	98.6
1978 II	105.5	104.8	101.5	103.8	101.7	100.7	103.9	96.9
1978 III	106.2	105.5	102.4	104.6	101.5	100.6	103.7	97.0
1978 IV	107.4	106.6	103.4	105.7	101.7	100.8	103.9	97.0
1979 I	108.0	107.6	104.4	106.6	101.3	100.4	103.4	97.1
1979 II	107.5	107.7	105.4	107.1	100.4	99.8	101.9	97.9
1979 III	108.0	108.7	106.4	108.1	99.9	99.3	101.4	97.9
1979 IV	107.9	108.8	107.4	108.5	99.5	99.1	100.4	98.7
1980 I	107.9	108.7	108.3	108.6	99.4	99.3	99.7	99.6
1980 II	104.7	106.6	109.1	107.5	97.4	98.2	96.0	102.3
1980 III	105.3	106.5	109.8	107.7	97.8	98.9	95.9	103.1
1980 IV	107.0	107.7	110.6	108.8	98.4	99.4	96.7	102.7
1981 I	109.1	108.3	111.5	109.4	99.7	100.7	97.9	102.9
1981 II	109.1	108.3	112.4	109.7	99.4	100.7	97.0	103.8
1981 III	109.6	108.5	113.3	110.1	99.5	101.0	96.7	104.5
1981 IV	107.8	107.4	114.2	109.8	98.2	100.3	94.4	106.3
1982 I	106.3	106.2	114.8	109.1	97.4	100.1	92.6	108.1
1982 II	106.4	106.0	115.5	109.2	97.5	100.4	92.1	109.0
1982 III	106.7	105.3	116.2	109.0	97.9	101.3	91.8	110.3
1982 IV	105.9	103.9	116.8	108.2	97.9	102.0	90.7	112.5
1983 I	107.1	104.5	117.3	108.8	98.5	102.6	91.3	112.3

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TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

2. Goods Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1976 I	93.3	95.6	95.5	95.9	97.2	97.5	97.6	99.9
1976 II	93.7	95.9	96.1	96.2	97.3	97.7	97.5	100.2
1976 III	94.1	95.8	96.7	96.3	97.7	98.3	97.3	100.9
1976 IV	96.0	96.1	97.3	96.7	99.3	99.9	98.7	101.2
1977 I	97.1	97.3	97.7	97.8	99.3	99.7	99.3	100.4
1977 II	99.7	100.3	98.5	100.1	99.6	99.4	101.2	98.1
1977 III	101.7	100.4	99.3	100.3	101.4	101.3	102.4	98.9
1977 IV	101.9	101.5	100.0	101.2	100.6	100.4	101.9	98.5
1978 I	101.4	101.7	100.5	101.5	99.9	99.7	100.9	98.8
1978 II	104.8	105.2	101.2	104.4	100.4	99.6	103.5	96.2
1978 III	106.2	106.4	101.9	105.4	100.8	99.9	104.3	95.8
1978 IV	107.3	107.2	102.6	106.2	101.1	100.1	104.6	95.7
1979 I	107.6	107.4	103.8	106.6	100.9	100.2	103.7	96.7
1979 II	107.3	107.5	105.0	106.9	100.3	99.8	102.1	97.7
1979 III	107.4	108.5	106.2	108.0	99.5	99.1	101.1	97.9
1979 IV	107.9	107.9	107.4	107.8	100.0	100.0	100.4	99.6
1980 I	108.3	108.0	108.5	108.2	100.1	100.2	99.8	100.4
1980 II	101.6	102.8	109.3	104.4	97.4	98.9	93.0	106.4
1980 III	99.6	101.5	110.0	103.6	96.2	98.1	90.5	108.3
1980 IV	104.0	103.3	110.8	105.1	98.9	100.6	93.9	107.2
1981 I	106.1	104.3	111.8	106.1	100.0	101.7	94.9	107.2
1981 II	106.4	103.3	112.8	105.6	100.8	103.0	94.4	109.1
1981 III	107.5	103.5	113.9	106.0	101.4	103.8	94.3	110.1
1981 IV	103.0	102.1	114.8	105.1	98.0	100.9	89.8	112.4
1982 I	98.9	98.8	115.5	102.7	96.3	100.1	85.7	116.8
1982 II	97.9	97.5	116.0	101.8	96.1	100.4	84.3	119.0
1982 III	97.4	95.7	116.6	100.6	96.9	101.8	83.5	121.9
1982 IV	97.4	93.0	116.6	98.6	98.8	104.7	83.5	125.4
1983 I	99.2	94.4	116.4	99.6	99.6	105.1	85.2	123.2

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TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

3. Service Producing Sector

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1976 I	92.7	95.6	94.2	95.6	96.9	97.0	98.4	98.5
1976 II	93.4	95.8	94.9	96.0	97.2	97.5	98.3	99.1
1976 III	94.0	96.2	95.6	96.6	97.3	97.7	98.3	99.4
1976 IV	93.6	96.9	96.3	97.2	96.3	96.7	97.2	99.5
1977 I	97.0	97.8	97.4	98.2	98.7	99.1	99.6	99.5
1977 II	99.3	99.5	98.2	99.5	99.8	99.7	101.1	98.7
1977 III	101.4	100.7	99.1	100.4	100.9	100.7	102.3	98.4
1977 IV	102.1	101.5	100.0	101.2	100.9	100.6	102.1	98.5
1978 I	103.6	90.5	100.9	94.7	109.3	114.5	102.6	111.5
1978 II	106.1	104.5	101.7	103.6	102.4	101.5	104.3	97.4
1978 III	106.1	104.9	102.6	104.3	101.8	101.1	103.4	97.8
1978 IV	107.5	106.2	103.8	105.5	101.9	101.2	103.6	97.8
1979 I	108.3	107.7	104.7	106.8	101.4	100.5	103.4	97.2
1979 II	107.7	107.9	105.7	107.3	100.4	99.8	101.9	97.9
1979 III	108.4	108.9	106.5	108.2	100.1	99.5	101.7	97.8
1979 IV	107.9	109.5	107.4	108.9	99.1	98.6	100.4	98.1
1980 I	107.7	109.1	108.1	109.0	98.8	98.7	99.6	99.1
1980 II	106.9	109.4	108.9	109.4	97.7	97.7	98.1	99.6
1980 III	109.3	110.1	109.7	110.2	99.2	99.3	99.6	99.7
1980 IV	109.2	110.9	110.6	111.0	98.4	98.5	98.8	99.7
1981 I	111.2	111.2	111.3	111.5	99.8	100.0	99.9	100.1
1981 II	110.9	111.8	112.2	112.2	98.8	99.2	98.9	100.3
1981 III	111.1	112.0	113.0	112.7	98.6	99.1	98.3	100.9
1981 IV	111.1	111.3	113.9	112.6	98.7	99.9	97.6	102.4
1982 I	111.5	111.5	114.5	112.9	98.8	100.0	97.4	102.7
1982 II	112.5	112.1	115.2	113.6	99.0	100.3	97.6	102.8
1982 III	113.3	112.3	116.0	114.0	99.4	100.9	97.7	103.3
1982 IV	112.0	111.7	116.9	114.0	98.2	100.2	95.8	104.7
1983 I	112.8	111.7	117.8	114.3	98.6	100.9	95.7	105.4

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TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

4. Nonfinancial Corporate Business

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1975 I	84.2	91.1	92.5	92.2	91.3	92.5	91.1	101.6
1975 II	85.9	90.1	92.5	91.5	93.8	95.3	92.9	102.6
1975 III	88.7	91.4	92.5	92.5	95.9	97.1	95.9	101.2
1975 IV	90.1	92.7	92.7	93.5	96.3	97.2	97.1	100.0
1976 I	92.8	94.6	93.6	95.1	97.5	98.1	99.1	99.0
1976 II	93.3	95.0	94.6	95.7	97.4	98.1	98.6	99.6
1976 III	94.1	95.5	95.3	96.3	97.7	98.5	98.7	99.8
1976 IV	94.5	96.3	95.8	97.0	97.5	98.2	98.7	99.5
1977 I	96.4	97.6	96.8	98.1	98.3	98.8	99.6	99.2
1977 II	99.5	99.6	98.0	99.6	99.9	99.9	101.5	98.3
1977 III	101.7	100.8	99.3	100.6	101.1	101.0	102.4	98.6
1977 IV	102.4	101.9	100.0	101.5	100.9	100.5	102.4	98.2
1978 I	102.8	102.3	101.1	102.1	100.7	100.4	101.7	98.8
1978 II	106.4	105.2	102.4	104.5	101.8	101.2	104.0	97.3
1978 III	107.1	106.3	103.3	105.6	101.4	100.7	103.7	97.1
1978 IV	109.0	107.7	104.0	106.8	102.1	101.3	104.9	96.6
1979 I	110.2	108.8	104.6	107.8	102.2	101.3	105.3	96.2
1979 II	109.8	108.9	105.3	108.0	101.6	100.8	104.3	96.7
1979 III	110.4	109.8	105.5	108.8	101.5	100.6	104.6	96.1
1979 IV	109.9	109.8	105.4	108.7	101.1	100.1	104.3	96.0
1980 I	109.8	109.6	105.7	108.6	101.1	100.3	103.9	96.5
1980 II	106.5	107.2	106.4	107.1	99.4	99.3	100.1	99.2
1980 III	107.1	106.5	106.3	106.5	100.6	100.6	100.8	99.8
1980 IV	109.0	107.8	106.3	107.5	101.4	101.1	102.6	98.6
1981 I	111.0	108.5	107.0	108.2	102.6	102.3	103.7	98.6
1981 II	111.1	108.7	108.0	108.6	102.3	102.2	102.8	99.4
1981 III	111.5	109.1	109.3	109.2	102.1	102.3	102.1	100.2
1981 IV	109.4	107.6	110.1	108.4	100.9	101.7	99.3	102.4
1982 I	107.9	106.0	110.3	107.3	100.6	101.8	97.8	104.1
1982 II	107.8	105.2	110.5	106.7	101.0	102.4	97.5	105.0
1982 III	108.0	104.2	111.2	106.1	101.7	103.6	97.1	106.7
1982 IV	106.2	102.4	110.8	104.7	101.5	103.7	95.9	108.1
1983 I	107.9	102.8	110.7	105.0	102.7	104.9	97.4	107.7

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TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

5. Farming

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1975 I	95.0	104.1	96.4	101.9	93.2	91.2	98.5	92.6
1975 II	102.9	103.9	97.0	102.1	100.7	99.0	106.0	93.3
1975 III	105.1	107.4	97.6	104.2	100.9	97.9	107.7	90.9
1975 IV	100.5	102.2	98.2	101.9	98.6	98.3	102.3	96.1
1976 I	100.3	99.0	98.5	100.4	99.9	101.3	101.8	99.5
1976 II	93.2	103.1	98.6	102.5	90.9	90.4	94.5	95.6
1976 III	93.4	100.5	98.8	101.3	92.2	92.9	94.5	98.3
1976 IV	98.4	97.1	98.9	99.6	98.8	101.4	99.5	101.9
1977 I	97.3	95.9	99.2	99.0	98.3	101.4	98.0	103.4
1977 II	95.2	103.4	99.5	102.2	93.2	92.1	95.7	96.2
1977 III	105.8	97.1	99.7	98.8	107.1	108.9	106.1	102.7
1977 IV	101.7	99.1	100.0	99.7	102.0	102.7	101.7	100.9
1978 I	103.0	101.1	99.7	100.4	102.5	101.9	103.3	98.6
1978 II	96.5	100.7	99.4	100.1	96.4	95.8	97.0	98.8
1978 III	98.5	101.4	99.1	100.3	98.2	97.2	99.4	97.7
1978 IV	96.4	100.0	98.8	99.5	97.0	96.4	97.6	98.8
1979 I	99.9	100.2	100.0	100.1	99.8	99.7	99.9	99.8
1979 II	105.3	98.0	101.2	99.7	105.7	107.4	104.1	103.3
1979 III	104.6	97.4	102.5	100.0	104.6	107.4	102.1	105.2
1979 IV	105.6	100.7	103.7	102.2	103.3	104.9	101.9	103.0
1980 I	108.7	96.5	103.9	100.3	108.3	112.6	104.6	107.7
1980 II	107.7	95.5	104.0	99.9	107.9	112.8	103.6	108.9
1980 III	104.0	96.2	104.1	100.2	103.8	108.1	100.0	108.1
1980 IV	97.5	98.1	104.1	101.2	96.4	99.4	93.6	106.2
1981 I	104.5	98.0	104.3	101.2	103.3	106.7	100.2	106.5
1981 II	111.6	95.8	104.6	100.3	111.2	116.4	106.6	109.2
1981 III	126.3	96.3	105.0	100.7	125.4	131.2	120.3	109.1
1981 IV	130.7	96.0	105.4	100.8	129.7	136.2	124.0	109.8
1982 I	117.6	96.1	105.5	100.9	116.6	122.4	111.4	109.8
1982 II	117.0	93.4	105.5	99.5	117.6	125.3	110.9	113.0
1982 III	121.3	93.4	105.6	99.6	121.9	129.9	114.9	113.0
1982 IV	138.8	91.6	105.6	98.7	140.6	151.6	131.4	115.3
1983 I	127.7	97.1	105.6	101.4	125.9	131.6	120.9	108.8

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TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

6. Manufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs				Productivity Ratios			
	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1975 I	80.9	91.5	92.7	92.4	87.5	88.4	87.3	101.3
1975 II	82.7	89.8	92.9	91.2	90.6	92.0	89.0	103.5
1975 III	88.1	91.2	93.2	92.3	95.4	96.6	94.5	102.2
1975 IV	89.9	93.2	93.5	94.0	95.7	96.4	96.1	100.3
1976 I	92.1	95.7	94.1	95.9	96.0	96.2	97.8	98.4
1976 II	93.2	95.7	94.9	96.1	96.9	97.4	98.2	99.2
1976 III	94.2	96.1	95.7	96.7	97.4	97.9	98.4	99.6
1976 IV	94.9	96.5	96.5	97.2	97.7	98.3	98.3	100.0
1977 I	96.9	97.9	97.3	98.3	98.6	99.0	99.7	99.3
1977 II	99.8	99.8	98.1	99.7	100.0	99.9	101.7	98.3
1977 III	101.2	100.8	99.2	100.5	100.7	100.4	102.1	98.4
1977 IV	102.1	101.6	100.0	101.3	100.8	100.5	102.1	98.4
1978 I	102.0	102.1	100.9	101.9	100.1	99.8	101.0	98.8
1978 II	104.7	104.3	102.0	103.7	101.0	100.4	102.7	97.8
1978 III	106.5	105.2	103.1	104.7	101.7	101.2	103.3	98.0
1978 IV	108.1	106.2	104.2	105.7	102.3	101.8	103.7	98.2
1979 I	108.9	107.3	105.5	106.8	101.9	101.5	103.2	98.4
1979 II	108.0	106.4	106.8	106.5	101.4	101.6	101.2	100.4
1979 III	108.0	106.9	108.0	107.2	100.8	101.1	100.0	101.1
1979 IV	107.9	105.8	109.4	106.7	101.1	102.0	98.6	103.4
1980 I	107.8	105.1	110.9	106.6	101.1	102.6	97.2	105.5
1980 II	101.6	101.1	112.3	104.0	97.7	100.5	90.4	111.1
1980 III	99.9	99.6	113.3	103.1	96.9	100.3	88.1	113.8
1980 IV	105.0	101.3	114.5	104.6	100.3	103.7	91.7	113.1
1981 I	106.7	101.4	116.0	105.1	101.5	105.2	92.0	114.4
1981 II	107.5	102.3	117.4	106.1	101.3	105.1	91.6	114.8
1981 III	107.4	102.2	119.0	106.5	100.9	105.1	90.2	116.5
1981 IV	102.0	99.0	120.1	104.4	97.7	103.0	84.9	121.3
1982 I	98.2	95.9	121.1	102.3	96.0	102.4	81.1	126.2
1982 II	97.0	94.5	121.9	101.4	95.6	102.6	79.5	129.0
1982 III	96.6	92.5	122.8	100.2	96.5	104.4	78.7	132.7
1982 IV	94.2	90.0	123.1	98.4	95.8	104.7	76.5	136.9
1983 I	96.9	90.7	123.6	99.0	97.8	106.8	78.4	136.3

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TABLE VII. BUSINESS ECONOMY AND MAJOR SECTORS

7. Nonfarm Nonmanufacturing Industry

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

	Output and Inputs				Productivity Ratios			
Year	Real Output	Labor Input	Capital Input	Total Factor Input	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1975 I	87.6	92.9	91.9	93.5	93.6	94.3	95.3	99.0
1975 II	88.6	92.3	92.4	93.3	95.0	96.0	96.0	100.1
1975 III	89.4	93.1	93.0	94.0	95.1	96.1	96.2	99.9
1975 IV	90.1	94.3	93.6	95.1	94.8	95.5	96.3	99.2
1976 I	93.0	95.3	94.2	95.9	96.9	97.6	98.7	98.8
1976 II	93.6	95.3	94.9	96.2	97.3	98.2	98.6	99.6
1976 III	94.0	95.7	95.6	96.7	97.2	98.3	98.3	99.9
1976 IV	94.3	96.5	96.3	97.5	96.7	97.7	97.9	99.8
1977 I	97.1	97.6	97.3	98.4	98.6	99.4	99.8	99.7
1977 II	99.5	99.6	98.2	99.6	99.8	99.9	101.3	98.5
1977 III	101.5	100.7	99.1	100.5	101.0	100.7	102.4	98.4
1977 IV	102.0	101.6	100.0	101.2	100.7	100.4	102.0	98.4
1978 I	103.0	91.7	100.9	95.1	108.3	112.4	102.1	110.1
1978 II	106.4	105.3	101.8	104.2	102.1	101.0	104.5	96.6
1978 III	106.4	106.0	102.7	105.0	101.3	100.3	103.6	96.9
1978 IV	107.6	107.3	103.9	106.2	101.3	100.3	103.6	96.8
1979 I	107.9	108.2	104.8	107.2	100.7	99.7	103.0	96.8
1979 II	107.3	109.0	105.8	108.0	99.4	98.5	101.5	97.0
1979 III	108.1	110.4	106.6	109.2	99.0	97.9	101.4	96.6
1979 IV	108.0	110.7	107.5	109.7	98.4	97.5	100.5	97.1
1980 I	108.0	111.1	108.2	110.2	97.9	97.1	99.7	97.4
1980 II	106.1	109.9	109.0	109.7	96.7	96.6	97.3	99.2
1980 III	108.0	110.3	109.8	110.3	97.9	97.8	98.3	99.5
1980 IV	108.5	111.3	110.7	111.2	97.5	97.4	98.0	99.4
1981 I	110.4	112.1	111.4	112.0	98.6	98.5	99.1	99.4
1981 II	109.7	111.9	112.3	112.2	97.8	98.1	97.7	100.4
1981 III	109.9	112.2	113.2	112.7	97.5	98.0	97.1	100.9
1981 IV	109.6	112.0	114.1	112.9	97.0	97.8	96.0	101.8
1982 I	109.7	111.5	114.7	112.8	97.2	98.3	95.6	102.8
1982 II	110.5	112.1	115.4	113.4	97.5	98.6	95.8	103.0
1982 III	111.0	111.9	116.2	113.6	97.7	99.1	95.5	103.8
1982 IV	110.1	111.0	116.9	113.2	97.2	99.2	94.2	105.4
1983 I	111.2	111.2	117.5	113.6	97.9	100.0	94.6	105.7

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S.I.C. 331 - Blast Furnace, Basic Steel Products

Indexes of Real Output, Inputs, and Productivity Ratios
(1977=100)

Year	Output and Inputs Real Output	 Labor Input	 Capital Input	 Total Factor Input	Productivity Ratios Total Factor Productivity	 Output per Unit Labor	 Output per Unit Capital	 Capital-Labor Ratio
1958	68.4	101.5	77.7	88.3	77.5	67.4	88.0	76.6
1959	79.1	104.5	76.5	89.4	88.5	75.7	103.4	73.2
1960	79.3	111.4	79.0	94.1	84.3	71.2	100.4	70.9
1961	75.9	103.4	79.9	90.2	84.1	73.4	95.0	77.3
1962	79.8	103.5	79.7	90.2	88.5	77.1	100.1	77.0
1963	84.7	105.1	80.4	91.4	92.7	80.6	105.3	76.5
1964	96.2	114.4	82.6	96.7	99.5	84.1	116.5	72.2
1965	104.6	119.6	85.2	100.4	104.2	87.5	122.8	71.2
1966	105.3	118.0	89.3	102.0	103.2	89.2	117.9	75.7
1967	97.9	113.3	93.0	102.1	95.9	86.4	105.2	82.1
1968	103.7	115.9	95.9	104.8	98.9	89.5	108.2	82.7
1969	106.3	118.1	97.9	106.9	99.4	90.0	108.6	82.9
1970	98.3	112.2	99.7	105.3	93.3	87.6	98.6	88.9
1971	93.5	101.7	98.9	100.3	93.3	91.9	94.5	97.2
1972	100.3	103.1	98.7	100.7	99.6	97.3	101.7	95.7
1973	119.4	112.0	97.1	104.1	114.7	106.6	122.9	86.7
1974	119.3	112.0	98.0	104.6	114.1	106.5	121.7	87.5
1975	90.3	96.8	100.9	99.0	91.2	93.3	89.5	104.2
1976	97.6	98.6	102.2	100.5	97.1	99.0	95.5	103.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	112.0	103.4	98.4	100.7	111.2	108.3	113.9	95.1
1979	111.7	104.5	97.3	100.7	110.9	106.9	114.7	93.2
1980	92.7	90.1	95.5	93.0	99.7	102.9	97.0	106.0
1981	101.8	90.7	95.6	93.3	109.1	112.2	106.5	105.4
1982	61.0	67.1	91.8	80.2	76.0	90.9	66.4	136.8

S.I.C. 2043 - Cereal Breakfast Foods
Output, Input and Productivity Ratios
(1977=100)

Year	Value Added	Labor Input	Capital Input	Materials Input	Energy Input	Gross Output	Total Input	Productivity	Factor Input	Productivity
1963	54.4	66.7	73.2	46.6	70.1	51.2	60.7	84.3	71.5	76.1
1964	56.1	67.8	75.0	51.2	71.1	54.1	63.7	85.0	73.2	76.7
1965	58.0	69.6	76.2	54.4	74.2	56.6	65.8	85.9	74.6	77.8
1966	59.4	70.5	76.3	54.0	76.3	57.3	65.8	87.0	74.8	79.5
1967	61.1	71.3	76.6	57.4	84.5	59.7	67.6	88.4	75.3	81.2
1968	62.9	68.4	75.5	55.9	88.7	60.1	66.0	91.1	73.7	85.4
1969	64.7	69.9	75.1	55.7	91.8	61.0	66.0	92.5	73.8	87.6
1970	69.2	71.3	78.6	60.2	91.8	65.6	69.6	94.2	76.8	90.2
1971	71.9	74.9	80.0	66.3	85.6	69.6	73.4	94.9	78.7	91.3
1972	78.4	76.0	80.3	66.4	94.8	73.4	73.7	99.7	79.2	99.0
1973	74.2	81.9	83.4	74.1	108.2	74.4	79.2	93.9	83.0	89.4
1974	63.8	84.8	86.1	75.0	82.5	68.7	81.1	84.7	85.7	74.4
1975	73.1	87.1	87.0	84.7	89.7	78.1	86.0	90.8	87.0	84.0
1976	87.9	89.2	94.1	86.3	104.1	87.3	90.0	97.0	92.9	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.4	98.2	101.8	94.0	102.1	99.5	97.9	101.5	100.9	102.5
1979	109.4	96.8	108.5	98.7	99.0	104.8	102.6	102.2	105.5	103.7
1980	107.9	95.3	115.7	90.6	113.4	100.6	101.9	98.7	110.5	97.6
1981*	107.9	94.4	120.8	90.6	113.4	100.6	104.0	96.8	114.1	94.5
1982*	109.4	90.6	128.0	91.9	115.5	102.1	107.1	95.3	118.5	92.3

S.I.C. 2047 - Dog, Cat, and Other Pet Foods
Output, Input and Productivity Ratios
(1977=100)

Year	Value Added	Labor Input	Capital Input	Materials Input	Energy Input	Gross Output	Total Input	Productivity	Factor Input	Productivity
1963	54.4	66.7	63.2	62.1	77.0	58.8	63.1	93.2	64.1	84.9
1964	54.6	78.1	63.7	62.5	77.6	59.0	64.6	91.4	67.7	80.7
1965	53.3	77.0	65.1	63.9	80.0	59.3	65.8	90.1	68.3	78.0
1966	53.8	76.8	66.4	68.7	88.5	62.1	69.1	89.9	69.2	77.7
1967	65.5	78.1	60.9	73.9	89.7	70.3	70.9	99.1	65.6	99.8
1968	67.4	76.5	70.0	71.1	88.5	69.6	71.5	97.3	71.8	93.9
1969	71.8	79.8	72.4	72.7	90.3	72.4	73.5	98.5	74.4	96.4
1970	74.2	79.8	75.2	75.2	83.6	74.8	75.7	98.7	76.4	97.0
1971	72.8	75.1	79.8	77.3	77.6	75.3	77.8	96.8	78.5	92.8
1972	74.5	85.2	84.6	79.7	81.8	77.3	81.6	94.7	84.8	87.8
1973	67.2	96.2	92.6	91.4	118.8	80.7	92.5	87.2	93.6	71.8
1974	69.7	90.7	99.3	88.1	91.5	79.8	91.5	87.2	97.0	71.9
1975	75.8	95.4	100.6	90.9	91.5	84.1	94.1	89.4	99.2	76.4
1976	87.1	96.4	100.0	96.5	102.4	92.3	97.5	94.6	99.0	87.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.4	107.4	103.7	97.9	93.3	101.7	100.5	101.2	104.7	101.6
1979	85.0	104.6	105.0	93.7	80.6	89.6	97.8	91.6	104.9	81.0
1980	93.8	102.7	107.1	86.7	75.2	89.8	94.0	95.6	105.9	88.5
1981*	97.9	101.6	109.0	85.9	74.5	91.2	93.9	97.2	107.0	91.5
1982*	102.2	97.5	110.6	85.1	73.8	92.7	93.4	99.3	107.1	95.4

*Extrapolated

S.I.C. 2095 - Roasted Coffee
Output, Input and Productivity Ratios
(1977=100)

Year	Value Added	Labor Input	Capital Input	Materials Input	Energy Input	Gross Output	Total Input	Productivity	Factor Input	Productivity
1963	305.1	153.7	78.6	132.2	66.1	162.5	120.0	135.4	105.1	290.4
1964	274.5	157.3	82.9	123.3	77.7	150.0	115.2	130.1	109.1	251.7
1965	264.5	146.7	78.3	128.2	76.9	152.2	116.8	130.3	102.4	258.3
1966	285.9	142.7	78.8	127.5	74.4	155.4	116.2	133.7	101.3	282.3
1967	324.7	144.9	82.5	132.0	71.9	165.8	120.3	137.8	104.5	310.7
1968	323.7	146.7	94.1	131.7	72.7	165.5	123.1	134.4	112.6	287.5
1969	360.6	156.8	92.5	124.6	71.9	166.0	118.4	140.3	115.1	313.2
1970	302.0	141.0	90.6	112.4	74.4	145.8	108.6	134.2	108.4	278.7
1971	291.8	131.3	97.4	120.3	76.9	150.5	115.1	130.7	109.3	267.0
1972	284.2	116.3	93.5	109.7	86.8	140.5	106.0	132.6	101.5	280.0
1973	258.1	115.9	96.0	104.7	117.4	132.1	103.3	127.8	103.0	250.6
1974	249.2	109.3	92.4	99.8	94.2	126.3	98.5	128.2	98.3	253.5
1975	283.2	107.5	91.6	109.7	97.5	140.4	105.1	133.7	97.2	291.3
1976	217.0	104.4	99.2	115.1	99.2	133.2	110.4	120.7	101.0	214.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	202.8	100.9	94.7	120.0	87.6	134.8	112.5	119.8	96.9	209.3
1979	222.0	103.1	87.9	107.1	78.5	127.5	102.0	124.9	93.2	238.1
1980	228.8	101.8	90.6	107.8	136.0	129.6	103.3	125.4	94.5	242.1
1981^e	231.0	101.8	97.5	107.4	135.2	129.7	104.8	123.8	99.0	233.3
1982^e	233.2	100.4	98.2	107.0	134.8	129.8	104.6	124.0	99.0	235.6

S.I.C. 2099 - Food Preparations, n.e.c.
Output, Input and Productivity Ratios
(1977=100)

Year	Value Added	Labor Input	Capital Input	Materials Input	Energy Input	Gross Output	Total Input	Productivity	Factor Input	Productivity
1963	55.9	78.9	59.6	61.2	48.6	58.5	63.4	92.3	63.4	84.3
1964	58.3	82.0	63.4	63.5	52.1	60.9	66.2	91.9	66.2	83.3
1965	60.0	83.1	65.6	69.0	57.9	64.5	70.1	92.0	70.1	83.7
1966	64.2	86.4	69.3	71.4	61.0	67.8	73.0	92.8	73.0	85.2
1967	69.0	87.6	73.4	81.8	67.5	75.4	80.1	94.1	80.1	88.0
1968	71.9	88.0	74.9	87.9	72.8	79.9	84.0	95.1	84.0	90.5
1969	77.1	92.3	76.3	89.0	78.1	83.1	85.8	96.9	85.8	94.1
1970	86.0	96.4	80.1	89.4	82.1	87.7	87.8	99.9	87.8	100.2
1971	90.2	92.6	84.3	90.2	80.6	90.1	88.8	101.4	88.8	103.4
1972	97.1	90.5	86.7	94.7	84.1	95.8	91.6	104.5	91.6	110.4
1973	106.6	99.9	90.8	98.5	91.7	102.4	96.4	106.2	96.4	113.4
1974	93.3	86.2	93.4	88.9	77.8	90.9	89.6	101.4	89.6	102.7
1975	92.2	93.1	95.0	95.9	82.4	94.0	95.1	98.8	95.1	97.7
1976	114.5	98.7	99.1	103.9	94.2	108.9	101.6	107.2	101.6	115.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.6	103.4	104.4	104.5	104.3	107.0	104.3	102.6	104.3	105.3
1979	110.0	100.4	108.2	110.8	110.6	110.4	108.5	101.8	108.5	104.3
1980	102.5	104.0	109.4	102.7	148.9	103.1	105.3	97.9	105.3	95.4
1981^e	106.1	104.2	116.2	104.1	151.0	105.6	108.0	97.7	108.0	94.7
1982^e	107.3	102.8	120.2	105.5	153.1	106.9	109.7	97.4	109.7	94.1

^{e}Extrapolated

Four Digit S.I.C. Industries
Partial Productivity Ratios
(1977=100)

S.I.C. 2043 - Cereal Breakfast Foods

Gross Output per Unit:

Year	Labor	Capital	Materials	Energy
1963	76.8	70.0	110.0	73.0
1964	79.8	72.2	105.8	76.1
1965	81.3	74.2	104.1	76.2
1966	81.3	75.1	106.0	75.1
1967	83.7	77.9	104.0	70.6
1968	87.9	79.7	107.5	67.8
1969	87.4	81.2	109.6	66.5
1970	91.9	83.4	108.9	71.5
1971	93.0	87.0	105.0	81.4
1972	96.6	91.4	110.7	77.4
1973	90.9	89.2	100.3	68.7
1974	81.0	79.8	91.6	83.2
1975	89.6	89.8	92.2	87.1
1976	97.9	92.8	101.2	83.9
1977	100.0	100.0	100.0	100.0
1978	101.2	97.7	105.8	97.4
1979	108.3	96.6	106.2	105.9
1980	105.6	87.0	111.0	88.7
1981[e]	106.5	83.3	111.0	88.7
1982[e]	112.6	79.7	111.0	88.4

S.I.C. 2047 - Dog, Cat, and Other Pet Food

Gross Output per Unit:

Year	Labor	Capital	Materials	Energy
1963	88.2	93.0	94.6	76.4
1964	75.6	92.6	94.5	76.1
1965	76.9	91.1	92.7	74.1
1966	80.9	93.6	90.4	70.2
1967	89.9	115.3	95.0	78.3
1968	90.9	99.3	97.9	78.6
1969	90.8	100.0	99.6	80.2
1970	93.7	99.4	99.5	89.4
1971	100.2	94.3	97.4	97.0
1972	90.7	91.4	97.1	94.5
1973	83.9	87.2	88.3	67.9
1974	88.0	80.4	90.6	87.2
1975	88.2	83.6	92.5	91.9
1976	95.7	92.3	95.6	90.1
1977	100.0	100.0	100.0	100.0
1978	94.7	98.1	103.9	109.0
1979	85.6	85.4	95.7	111.2
1980	87.4	83.8	103.6	119.4
1981[e]	89.7	83.7	106.2	122.4
1982[e]	95.0	83.8	109.0	125.7

S.I.C. 2095 - Roasted Coffee

Gross Output per Unit:

Year	Labor	Capital	Materials	Energy
1963	105.7	206.7	123.0	245.8
1964	95.4	180.9	121.6	193.0
1965	103.7	194.3	118.7	198.0
1966	108.8	197.2	121.9	208.9
1967	114.4	200.9	125.6	230.6
1968	112.8	175.9	125.6	227.5
1969	105.9	179.5	133.3	230.9
1970	103.4	160.9	129.7	196.0
1971	114.6	154.6	125.1	195.8
1972	120.8	150.4	128.1	162.0
1973	114.0	137.6	126.1	112.5
1974	115.6	136.8	126.6	134.1
1975	130.7	153.2	128.0	144.0
1976	127.6	134.4	115.8	134.3
1977	100.0	100.0	100.0	100.0
1978	133.6	142.3	112.3	153.8
1979	123.6	145.0	119.0	162.3
1980	127.4	143.1	120.2	95.3
1981[e]	127.4	133.0	120.7	95.9
1982[e]	129.2	132.1	121.2	96.3

S.I.C. 2099 - Food Preparations, n.e.c.

Gross Output per Unit:

Year	Labor	Capital	Materials	Energy
1963	74.1	98.2	95.6	120.4
1964	74.2	96.0	95.8	116.7
1965	77.7	98.4	93.5	111.4
1966	78.4	97.8	95.0	111.2
1967	86.1	102.7	92.2	111.7
1968	90.9	106.8	91.0	109.8
1969	90.0	108.9	93.4	106.4
1970	90.9	109.5	98.0	106.8
1971	97.2	106.9	99.9	111.8
1972	105.9	110.5	101.1	113.8
1973	102.5	112.7	104.0	111.6
1974	105.4	97.3	102.3	116.8
1975	100.9	98.9	98.0	114.1
1976	110.4	109.9	104.9	115.6
1977	100.0	100.0	100.0	100.0
1978	103.4	102.5	102.4	102.6
1979	109.9	102.0	99.6	99.8
1980	99.1	94.2	100.4	69.2
1981[e]	101.3	90.8	101.4	69.9
1982[e]	104.0	88.9	101.3	69.8

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[e] Extrapolated

S.I.C. 3079 - Miscellaneous Plastic Products
Output, Input and Productivity Ratios
(1977=100)

Year	Value Added	Labor Input	Capital Input	Materials Input	Energy Input	Gross Output	Total Input	Productivity	Factor Input	Productivity
1958	10.5	28.0	14.7	17.8	20.9	13.8	19.7	70.0	21.2	49.3
1959	12.7	31.7	16.3	21.6	24.5	16.7	22.8	73.1	23.9	53.4
1960	13.7	32.8	18.1	22.3	25.8	17.5	24.0	73.1	25.4	53.8
1961	15.7	33.6	20.1	23.9	29.5	19.4	25.5	75.8	26.8	58.5
1962	17.7	37.5	22.4	26.7	30.9	21.8	28.5	76.4	29.9	59.3
1963	20.5	40.2	25.0	29.7	34.7	24.6	31.3	78.8	32.5	63.3
1964	24.2	44.0	27.9	32.2	40.8	27.8	34.3	81.0	35.9	67.4
1965	29.2	49.1	32.1	37.4	46.7	32.9	39.2	84.0	40.5	72.2
1966	33.3	54.7	37.3	41.5	52.4	37.1	44.1	84.2	45.9	72.6
1967	40.5	59.9	42.8	45.9	60.3	43.0	49.0	87.9	51.2	79.1
1968	47.3	63.9	47.7	55.8	67.0	51.2	56.0	91.5	55.7	85.0
1969	53.6	68.3	53.0	59.9	63.4	56.5	60.3	93.8	60.5	88.5
1970	56.3	67.5	57.6	56.2	64.5	56.4	59.7	94.6	62.5	90.2
1971	61.2	67.0	61.7	61.0	76.6	61.2	63.0	97.1	64.3	95.1
1972	74.4	77.2	68.9	74.9	84.2	74.7	74.1	100.8	73.0	101.9
1973	86.9	85.0	77.6	86.2	77.0	86.7	83.4	103.8	81.3	106.9
1974	83.5	82.9	84.3	80.5	75.2	82.2	82.1	100.1	83.6	99.8
1975	68.5	74.1	85.6	69.5	82.0	69.1	75.3	91.8	80.0	85.7
1976	82.0	83.0	90.6	79.5	94.9	81.0	83.6	96.8	86.8	94.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.9	105.4	109.9	110.5	94.5	108.4	108.7	99.7	107.7	99.3
1979	108.9	106.4	116.8	101.5	82.9	105.6	106.5	99.1	111.7	97.5
1980	100.3	100.3	121.2	96.4	90.5	98.4	103.9	94.7	110.9	90.4
1981[e]	106.7	103.8	126.3	101.1	81.5	104.2	108.2	96.3	115.2	92.7
1982[e]	98.1	99.0	129.2	92.9	85.8	95.7	104.0	91.9	114.3	85.8

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[e] Extrapolated

S.I.C. 3079 - Miscellaneous Plastic Products

Gross Output per Unit:

Year	Labor	Capital	Materials	Energy
1958	49.3	93.9	77.4	66.0
1959	52.8	102.7	77.4	68.1
1960	53.6	96.7	78.6	68.0
1961	57.7	96.1	81.0	65.6
1963	61.3	98.6	82.9	71.0
1964	63.2	99.6	86.3	68.0
1965	67.1	102.7	88.0	70.5
1966	67.8	99.3	89.3	70.8
1967	71.9	100.7	93.8	71.4
1968	80.1	107.4	91.8	76.4
1969	82.8	106.6	94.4	89.2
1970	83.6	98.0	100.5	87.5
1971	91.4	99.3	100.3	79.9
1972	96.8	108.4	99.8	88.7
1973	101.9	111.6	100.5	112.6
1974	99.1	97.5	102.1	109.3
1975	93.2	80.7	99.4	84.2
1976	97.6	89.4	101.9	85.3
1977	100.0	100.0	100.0	100.0
1978	102.9	98.6	98.1	114.7
1979	99.2	90.4	104.0	127.4
1980	98.1	81.2	102.1	108.8
1981[e]	100.4	82.5	103.0	127.8
1982[e]	96.6	74.0	103.0	111.4

[e] Extrapolated

R2800-1 A

MULTIPLE INPUT PRODUCTIVITY INDEXES

Volume 4 No. 2 October 1983

SECOND QUARTER

UPDATE

1982 Productivity Growth Rates (Annual Percent of Change)

	Total Factor Productivity	Labor Productivity	Capital Productivity	Capital/Labor Ratio
Private business economy	-0.4%	1.2%	-3.6%	5.0%
Segments:				
Farming	5.9	7.7	4.3	3.3
Manufacturing	-0.9	2.3	-8.1	11.3
Non-farm/non manufacturing	-0.3	0.8	-2.0	2.9
Sectors:				
Goods-producing	-0.4	1.9	-6.7	4.3
Services-producing	0.0	0.9	-1.3	2.2

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MULTIPLE INPUT PRODUCTIVITY INDEXES

A SECOND QUARTER UPDATE TO VOLUME 4, NUMBER 1

INCLUDING AVERAGE ANNUAL GROWTH RATES AND INDEXES FOR LABOR, CAPITAL AND TOTAL FACTOR PRODUCTIVITY IN THE MAJOR INDUSTRY SEGMENTS.

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Big Output, Total Factor Gains in Second Quarter

The long awaited economic recovery got into full swing in the second quarter of 1983. The recovery exhibited robust increases in output and productivity in all sectors of the economy.

For the private business economy as a whole, output grew at an annualized rate of 12.5 percent. This spurt of growth, in turn, produced a 7.2 percent annualized rate of growth in total factor productivity. The biggest jump in total factor productivity, however, came in the manufacturing sector where that key index of performance rose 11.3 percent. The rise in total factor productivity in manufacturing was sustained by a 16.1 percent increase in manufacturing output. This improvement in manufacturing sales allowed firms in that sector of the economy to expand their labor forces by 10.9 percent. This expansion in the use of labor by manufacturing contributed largely to the rapid decline in the national unemployment rate in the second quarter.

The strong second quarter performance has put the current recovery back on track when compared to previous recoveries at this stage in their development.

Performance, Second Quarter of "Recovery"
(Turning Point = 100.00, Not Annualized)

First Quarter of Recovery		Output	Labor Input	Labor Pty.	Total Factor Pty.
3Q	1961	103.2	99.7	103.5	103.1
2Q	1971	102.9	100.9	102.1	100.9
3Q	1975	104.4	100.2	104.2	103.9
2Q	1983	104.1	102.1	102.0	102.3

(Recession turning points: 1Q 1961, 4Q 1970, 1Q 1975, 4Q, 1982)

Labor productivity continues to lag behind previous recoveries due largely to the increased utilization of labor. Firms have tended to hire back laid off workers faster in this recovery than in previous recoveries.

Whether the current recovery will continue to track along the path of previous recoveries remains to be seen. Preliminary government reports of slower third quarter growth and lower forecasts of future growth lead one to tentatively conclude that this recovery will be hard pressed in maintaining its current robustness.

The quarterly improvement in labor and total factor productivity should not lead us to believe that the long-term productivity trends have been altered. The computer generated graphic of Productivity Trends in the Business Economy on page illustrates this point. Between 1949 and 1971 both total factor and labor productivity improved steadily. With the 1971 recession the productivity picture changed and for the last decade the private business economy has shown relatively little improvement with respect to productivity improvement.

Productivity Trends in the Business Economy

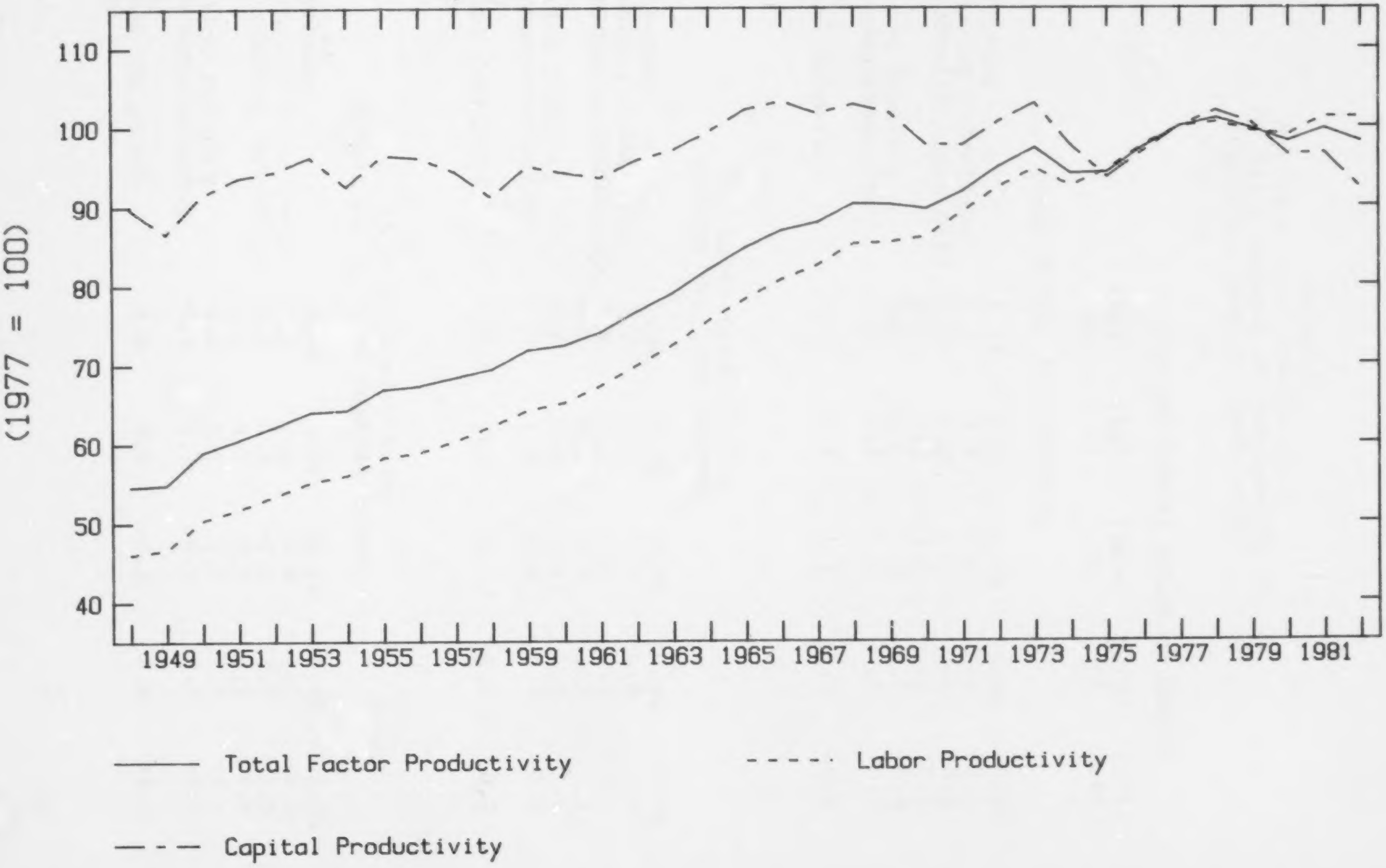

Table I
Multiple Input Productivity By Major Segment of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
1. Total Factor Productivity					
Business Economy	1.7%	2.6%	1.7%	0.4%	-0.6%
Goods Producing Industries	2.3	3.5	2.3	0.4	-0.2
Service Producing Industries	1.3	1.8	1.3	0.6	-0.5
Farming	3.6	4.1	3.1	1.8	5.6
Manufacturing Industry	1.9	2.6	2.3	0.7	-0.4
Nonfarm Nonmanufacturing Industry	1.2	1.9	1.1	0.2	-0.7
Nonfinancial Corporate Business	1.7	2.6	1.5	0.7	-0.1
2. Labor Productivity (Output per hour worked)					
Business Economy	2.3%	3.2%	2.4%	0.8%	0.6%
Goods Producing Industries	2.9	4.0	2.7	0.8	1.3
Service Producing Industries	1.8	2.3	2.1	0.8	0.1
Farming	5.0	5.3	4.8	3.2	7.1
Manufacturing Industry	2.6	3.0	2.8	1.5	1.6
Nonfarm Nonmanufacturing Industry	1.7	2.4	1.8	0.4	0.0
Nonfinancial Corporate Business	2.2	3.1	2.1	0.7	0.7
3. Capital Productivity (Output per unit of capital input)					
Business Economy	0.1%	0.8%	0.1%	-0.4%	-2.8%
Goods Producing Industries	0.1	1.1	0.8	-1.3	-4.5
Service Producing Industries	0.1	0.5	-0.2	0.3	-1.5
Farming	0.2	-0.3	0.0	0.1	4.3
Manufacturing Industry	-0.3	0.9	0.3	-1.7	-5.4
Nonfarm Nonmanufacturing Industry	-0.1	0.4	-0.4	-0.1	-2.1
Nonfinancial Corporate Business	0.3	0.9	-0.1	0.4	-2.2

Table II

Outputs, Inputs and Capital-Labor Ratio By Major Segment of the Economy (Selected Periods, 1948 - 82)

Average Annual Rates of Change

1. Output
(Real product, in 1972 dollars)

	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	3.2%	3.6%	3.9%	2.7%	-0.4%
Goods Producing Industries	2.6	3.6	3.3	1.6	-2.5
Service Producing Industries	3.5	3.6	4.3	3.6	1.1
Farming	1.4	0.9	0.9	1.6	5.0
Manufacturing Industry	3.0	4.0	4.1	2.0	-2.9
Nonfarm Nonmanufacturing Industry	3.3	3.6	3.9	3.1	0.6
Nonfinancial Corporate Business	3.9	4.6	5.0	3.0	-0.7

2. Labor Input
(Hours worked)

	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	0.8%	0.4%	1.4%	1.9%	-0.9%
Goods Producing Industries	-0.2	-0.4	0.6	0.8	-3.8
Service Producing Industries	1.7	1.2	2.1	2.8	1.0
Farming	-3.4	-4.2	-3.7	-1.5	-2.0
Manufacturing Industry	0.5	1.0	1.2	0.5	-4.4
Nonfarm Nonmanufacturing Industry	1.6	1.2	2.1	2.8	0.6
Nonfinancial Corporate Business	1.7	1.5	2.9	2.3	-1.4

Table II (Cont'd)

Outputs, Inputs and Capital-Labor Ratio
By Major Segment of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
3. Capital Input					
Business Economy	3.1%	2.8%	3.8%	3.2%	2.5%
Goods Producing Industries	2.5	2.4	2.5	3.0	2.1
Service Producing Industries	3.4	3.1	4.5	3.3	2.7
Farming	1.1	1.2	0.9	1.5	0.6
Manufacturing Industry	3.3	3.1	3.7	3.8	2.7
Nonfarm Nonmanufacturing Industry	3.4	3.2	4.3	3.3	2.7
Nonfinancial Corporate Business	3.7	3.7	5.1	2.7	1.5
4. Capital - Labor Ratio					
Business Economy	2.3%	2.4%	2.3%	1.2%	3.5%
Goods Producing Industries	2.8	2.8	1.9	2.1	6.1
Service Producing Industries	1.7	1.8	2.3	0.5	1.7
Farming	4.7	5.7	4.8	3.1	2.6
Manufacturing Industry	2.8	2.1	2.5	3.2	7.4
Nonfarm Nonmanufacturing Industry	1.8	2.0	2.2	0.4	2.2
Nonfinancial Corporate Business	1.9	2.2	2.2	0.4	2.9

Table III a.

Total Factor Productivity
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	1.7%	2.6%	1.7%	0.4%	-0.6%
Goods Producing Industries	2.3	3.5	2.3	0.4	-0.2
Service Producing Industries	1.3	1.8	1.3	0.6	-0.5
Farming	3.6	4.1	3.1	1.8	5.6
Manufacturing	1.9	2.6	2.3	0.7	-0.4
Food	2.8	2.9	4.1	0.1	4.6
Tobacco	1.2	2.3	2.1	0.3	-5.2
Textiles	3.5	3.9	3.0	3.7	2.0
Apparel	2.4	2.0	3.0	3.1	2.3
Lumber	2.5	4.5	1.3	0.2	-1.1
Furniture	1.7	2.1	0.8	3.3	-1.3
Paper	1.9	2.2	4.0	0.0	-1.9
Printing & Publishing	1.1	2.4	1.0	-1.2	-1.1
Chemicals	2.9	3.9	4.2	1.2	-2.6
Petroleum	0.8	3.4	2.0	-3.3	-7.9
Rubber	1.6	2.3	2.0	-0.5	1.3
Leather	1.4	1.0	1.7	1.2	3.2
Stone, Clay & Glass	1.1	2.0	0.9	0.1	-1.3
Primary Metals	-0.3	0.9	0.9	-2.0	-6.3
Fabricated Metals	1.3	1.7	1.3	0.8	0.2
Machinery, exc. Elec.	1.3	1.4	1.4	0.8	1.6
Electrical Machinery	3.6	4.3	2.8	3.2	2.0
Transportation Equipment	1.7	3.4	2.3	0.2	-5.9
Instruments	2.8	3.6	2.5	0.9	2.7
Miscellaneous Manufac.	2.5	2.3	3.6	1.9	1.5
Nonfarm Nonmanufacturing	1.2	1.9	1.1	0.1	-0.7
Mining	0.5	2.3	1.7	-4.1	-3.4
Construction	0.2	2.4	-1.0	-3.0	-2.6
Transportation	1.6	2.0	2.4	1.2	-2.2
Railroad	2.7	4.2	1.2	0.4	2.6
Nonrail	0.8	0.5	2.7	1.2	-3.4
Communications	4.3	5.4	3.2	3.8	1.9
Public Utilities	2.3	4.7	1.3	-1.3	-0.4
Trade	1.9	2.4	2.6	0.7	-0.4
Finance & Insurance	0.2	1.0	0.3	-1.1	-1.7
Real Estate	1.6	1.9	0.0	2.6	2.4
Services	0.1	0.3	-0.2	-0.1	-0.3
Nonfinancial Corporate Business	1.7	2.6	1.5	0.6	-0.1

Table III b.

Labor Productivity
(Output per Hour)
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	2.3	3.2%	2.4%	0.8%	0.6%
Goods Producing Industries	2.9	4.0	2.7	0.8	1.3
Service Producing Industries	1.8	2.3	2.1	0.8	0.1
Farming	5.0	5.3	4.8	3.2	7.1
Manufacturing	2.6	3.0	2.8	1.5	1.6
Food	3.3	3.2	4.6	0.6	5.6
Tobacco	3.2	4.0	4.0	2.6	-2.4
Textiles	4.4	5.0	3.3	4.5	4.0
Apparel	2.7	2.0	3.3	3.5	3.1
Lumber	3.0	4.3	1.8	1.4	2.2
Furniture	2.0	2.1	1.1	3.9	-0.2
Paper	2.6	2.5	4.5	1.3	0.3
Printing & Publishing	1.4	2.4	1.5	-0.8	-0.3
Chemicals	3.9	4.8	4.8	2.5	-0.8
Petroleum	2.7	5.5	3.3	-1.9	-5.5
Rubber	2.0	2.5	2.2	0.0	2.5
Leather	1.8	1.2	2.2	1.6	4.3
Stone, Clay & Glass	1.9	2.6	1.2	0.9	1.6
Primary Metals	0.6	1.5	1.5	-1.3	-2.5
Fabricated Metals	1.8	2.1	1.5	1.3	1.8
Machinery, exc. Elec.	1.9	1.7	2.0	1.3	3.7
Electrical Machinery	4.0	4.5	3.4	3.8	3.3
Transportation Equipment	2.4	3.6	3.1	1.0	-2.8
Instruments	3.3	3.8	3.1	1.2	4.4
Miscellaneous Manufac.	3.1	2.8	4.0	2.2	3.4
Nonfarm Nonmanufacturing	1.7	2.4	1.8	0.3	0.0
Mining	1.4	4.3	2.4	-5.3	-3.9
Construction	0.3	2.6	-0.9	-3.0	-2.3
Transportation	1.9	2.3	2.6	1.3	-1.1
Railroad	3.3	4.8	1.7	0.4	4.9
Nonrail	1.2	0.8	3.2	1.6	-2.3
Communications	5.6	6.5	4.8	5.3	3.5
Public Utilities	4.0	5.6	3.4	-0.1	4.7
Trade	2.3	2.8	3.2	1.0	0.0
Finance & Insurance	0.9	1.3	1.2	-0.1	-0.5
Real Estate	0.9	1.2	0.1	-0.1	3.2
Services	0.4	0.9	0.3	-0.3	-0.4
Nonfinancial Corporate Business	2.2	3.1	2.1	0.7	0.7

Table III c.

Capital Productivity
(Output per Unit Capital)
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	0.1%	0.8%	0.1%	-0.4%	-2.8%
Goods Producing Industries	0.1	1.1	0.8	-1.3	-4.5
Service Producing Industries	0.1	0.5	-0.2	0.3	-1.5
Farming	0.2	-0.3	0.0	0.1	4.3
Manufacturing	-0.3	0.9	0.3	-1.7	-5.4
Food	1.4	2.1	2.5	-1.9	1.7
Tobacco	-1.5	-1.4	0.4	-1.3	-6.8
Textiles	-0.6	-1.6	1.5	1.1	-3.7
Apparel	0.2	1.3	-0.9	-0.3	-2.6
Lumber	0.9	5.2	-1.4	-3.3	-8.2
Furniture	0.2	2.0	-1.2	0.4	-6.2
Paper	0.2	1.5	2.5	-3.1	-6.2
Printing & Publishing	0.1	2.6	-1.7	-2.4	-3.8
Chemicals	1.1	2.2	3.1	-1.1	-5.0
Petroleum	-0.6	1.5	0.9	-4.1	-9.2
Rubber	0.2	1.3	1.0	-2.3	-3.0
Leather	-1.6	-0.7	-3.0	-1.9	-2.7
Stone, Clay & Glass	-1.2	-0.1	-0.1	-2.3	-7.9
Primary Metals	-3.2	-1.7	-1.0	-4.2	-14.9
Fabricated Metals	-1.7	-1.2	-0.3	-2.3	-6.5
Machinery, exc. Elec.	-1.2	-0.6	-1.1	-1.3	-4.6
Electrical Machinery	1.4	3.5	-0.7	0.5	-2.8
Transportation Equipment	-0.4	2.8	-1.0	-2.1	-12.6
Instruments	1.0	1.8	0.4	0.3	-1.1
Miscellaneous Manufac.	-0.2	-0.6	2.0	0.3	-4.9
Nonfarm Nonmanufacturing	-0.1	0.4	-0.4	-0.1	-2.1
Mining	-1.5	-2.0	0.7	-2.4	-2.7
Construction	-2.4	-1.7	-2.7	-2.4	-5.5
Transportation	-0.2	-0.1	1.3	0.9	-6.3
Railroad	-0.7	-0.3	-1.1	0.2	-4.3
Nonrail	-1.5	-1.4	0.0	-0.5	-7.3
Communications	0.7	0.3	0.8	2.0	0.4
Public Utilities	0.6	2.8	-0.5	-2.1	-3.3
Trade	-1.3	-1.1	-1.4	-0.7	-2.5
Finance & Insurance	-3.2	-1.4	-4.6	-5.3	-5.6
Real Estate	1.7	2.0	0.0	2.8	2.3
Services	-0.8	-1.3	-1.1	0.4	-0.1
Nonfinancial Corporate Business	0.3	0.9	-0.1	0.4	-2.2

Table III d.

Capital - Labor Ratio
By Major Industries of the Economy
(Selected Periods, 1948 - 82)

	Average Annual Rates of Change				
	1948-82	1948-65	1965-73	1973-79	1979-82
Business Economy	2.3%	2.4%	2.3%	1.2%	3.5%
Goods Producing Industries	2.8	2.8	1.9	2.1	6.1
Service Producing Industries	1.7	1.8	2.3	0.5	1.7
Farming	4.7	5.7	4.8	3.1	2.6
Manufacturing	2.8	2.1	2.5	3.2	7.4
Food	1.8	1.1	2.0	2.6	3.8
Tobacco	4.7	5.5	3.7	4.0	4.6
Textiles	5.0	6.7	1.8	3.4	8.0
Apparel	2.5	0.6	4.2	3.8	5.9
Lumber	2.1	-0.9	3.2	4.9	11.3
Furniture	1.7	0.1	2.4	3.4	6.4
Paper	2.4	1.0	2.0	4.5	6.9
Printing & Publishing	1.2	-0.2	3.3	1.6	3.6
Chemicals	2.7	2.5	1.7	3.6	4.4
Petroleum	3.3	4.0	2.4	2.3	4.1
Rubber	1.7	1.1	1.2	2.3	5.7
Leather	3.4	1.9	5.3	3.6	7.2
Stone, Clay & Glass	3.1	2.7	1.3	3.3	10.4
Primary Metals	4.0	3.2	2.5	2.9	14.5
Fabricated Metals	3.6	3.4	1.8	3.7	8.9
Machinery, exc. Elec.	3.1	2.4	3.1	2.6	8.6
Electrical Machinery	2.6	0.9	4.2	3.3	6.3
Transportation Equipment	2.9	0.8	4.2	3.2	11.2
Instruments	2.3	2.0	2.7	1.0	5.6
Miscellaneous Manufac.	3.3	3.5	2.0	1.9	8.7
Nonfarm Nonmanufacturing	1.8	2.0	2.2	0.4	2.2
Mining	2.9	6.3	1.7	-3.0	-1.2
Construction	2.8	4.3	1.8	-0.6	3.4
Transportation	2.1	2.4	1.3	0.4	5.5
Railroad	4.1	5.1	2.8	0.2	9.6
Nonrail	2.7	2.2	3.2	2.1	5.4
Communications	4.8	6.2	3.9	3.2	3.1
Public Utilities	3.3	2.7	3.8	2.0	8.3
Trade	3.6	3.9	4.7	1.7	2.7
Finance & Insurance	4.3	2.8	6.1	5.6	5.4
Real Estate	-0.8	-0.7	0.1	-2.9	0.9
Services	1.2	2.1	1.4	-0.8	-0.3
Nonfinancial Corporate Business	1.9	2.2	2.2	0.4	2.9

Table VII
Quarterly Indexes of Productivity
1982 I to 1983 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

1. Business Economy

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	98.6	101.1	94.0	107.6
	II	98.0	100.7	93.2	108.0
	III	98.0	101.1	92.5	109.3
	IV	98.2	101.9	91.6	111.2
1983	I	98.8	102.5	92.2	111.2
	II	100.5	103.9	94.4	110.0
1982		98.1	101.2	91.9	110.9
Percent Change: (Annual Rate)					
1982	I	-3.0	-0.4	-8.0	8.3
	II	-2.1	-1.6	-3.0	1.5
	III	0.0	1.7	-3.1	4.9
	IV	0.8	3.3	-3.7	7.3
1983	I	2.1	2.0	2.3	-0.3
	II	7.2	5.7	10.1	-4.0
1982		-1.7	-0.1	-4.6	4.7

2. Goods Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	99.2	102.7	89.0	115.4
	II	98.1	102.0	87.3	116.9
	III	98.7	103.2	86.4	119.5
	IV	100.7	106.0	86.3	122.8
1983	I	102.1	107.2	88.3	121.5
	II	104.7	109.4	91.7	119.3
1982		99.3	103.5	87.1	118.9
Percent Change: (Annual Rate)					
1982	I	0.0	4.1	-11.2	17.2
	II	-4.2	-2.9	-7.6	5.1
	III	2.5	4.9	-4.0	9.3
	IV	8.2	11.4	-0.2	11.6
1983	I	5.8	4.6	9.2	-4.2
	II	10.6	8.5	16.5	-6.8
1982		-1.5	0.6	-7.2	8.4

Table VII (Cont'd)
Quarterly Indexes of Productivity
1982 I to 1983 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

3. Service Producing Industries

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	98.7	99.8	97.5	102.4
	II	98.6	99.6	97.5	102.1
	III	98.3	99.5	97.0	102.7
	IV	97.6	99.2	95.5	103.9
1983	I	97.4	99.3	95.1	104.4
	II	98.0	100.2	96.6	103.7
1982		98.1	99.6	96.0	103.8
Percent Change:		(Annual Rate)			
1982	I	-4.2	-3.2	-5.8	2.8
	II	-0.4	-0.7	0.1	-0.9
	III	-1.1	-0.3	-2.4	2.1
	IV	-3.1	-1.3	-5.8	4.7
1983	I	-0.4	0.4	-1.6	2.0
	II	4.8	3.8	6.3	-2.4
1982		-1.4	-0.5	-2.8	2.3

4. Nonfinancial Corporate Business

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	101.2	102.4	98.3	104.1
	II	100.9	102.3	97.6	104.8
	III	101.5	103.2	97.1	106.3
	IV	101.3	103.4	96.3	107.4
1983	I	102.3	104.3	97.5	106.9
	II	104.1	105.7	100.5	105.2
1982		101.3	102.8	97.4	105.5
Percent Change:		(Annual Rate)			
1982	I	-1.5	0.9	-7.7	9.3
	II	-1.2	-0.5	-2.8	2.4
	III	2.2	3.8	-2.0	6.0
	IV	-0.5	0.6	-3.4	4.2
1983	I	3.9	3.4	5.1	-1.7
	II	7.4	5.5	12.6	-6.4
1982		-0.7	0.5	-3.8	4.5

Table VII (Cont'd)
Quarterly Indexes of Productivity
1982 I to 1983 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

5. Farming

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982 I	129.4	136.1	123.6	110.1
II	115.0	122.7	108.3	113.3
III	110.1	117.5	103.8	113.2
IV	127.2	137.1	118.8	115.4
1983 I	119.1	124.5	114.4	108.8
II	119.8	123.3	116.6	105.8
1982	120.7	127.9	113.7	112.5
Percent Change: (Annual Rate)				
1982 I	-10.1	-9.9	-10.2	0.3
II	-37.7	-33.9	-40.9	11.9
III	-15.9	-16.0	-15.7	-0.3
IV	77.8	85.3	71.6	8.0
1983 I	-23.0	-32.0	-14.1	-20.9
II	2.3	-3.6	8.1	-10.8
1982	-2.3	-0.8	-3.7	3.1

6. Manufacturing Industry

	Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982 I	99.2	105.1	85.2	123.4
II	99.1	105.3	84.3	125.0
III	100.6	107.8	84.0	128.2
IV	100.1	108.1	82.1	131.7
1983 I	102.3	110.2	84.5	130.4
II	105.1	112.4	88.1	127.6
1982	99.7	106.5	83.7	127.3
Percent Change: (Annual Rate)				
1982 I	-1.8	2.8	-12.3	17.3
II	-0.7	0.8	-4.2	5.3
III	6.3	9.6	-1.2	10.9
IV	-2.1	1.2	-9.1	11.3
1983 I	9.3	8.0	12.4	-4.0
II	11.3	8.4	18.3	-8.3
1982	-1.5	-1.2	-7.8	9.8

Table VII (Cont'd)
Quarterly Indexes of Productivity
1982 I to 1983 II
Total Factor, Labor, Capital and Capital/Labor Ratio
(1977=100)

7. Nonfarm Nonmanufacturing Industry

		Total Factor Productivity	Output per Unit Labor	Output per Unit Capital	Capital-Labor Ratio
1982	I	97.1	98.2	95.7	102.6
	II	97.0	98.0	95.6	102.5
	III	96.7	98.0	94.8	103.3
	IV	96.6	98.4	93.9	104.8
1983	I	96.8	98.8	93.7	105.4
	II	98.0	99.9	95.2	105.0
1982		96.7	98.1	94.2	104.2
Percent Change: (Annual Rate)					
1982	I	-2.6	-0.7	-5.9	5.6
	II	-0.4	-0.6	-0.1	-0.4
	III	-1.4	-0.3	-3.4	3.1
	IV	-0.4	1.7	-4.0	5.9
1983	I	0.8	1.7	-0.8	2.4
	II	5.4	4.7	6.6	-1.8
1982		-1.4	-0.3	-3.2	2.0

Note: Percent changes are average annual rates of change from the previous quarter. Output and labor are revised, as published by the Bureau of Labor Statistics, Department of Labor, August 26, 1983, "Productivity and Costs" release. Output and capital input reflects July revisions of the National Income Accounts by the Dept. of Commerce, Bureau of Economic Analysis.